Test of Time

Lane Kleist

TEST OF TIME

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

By

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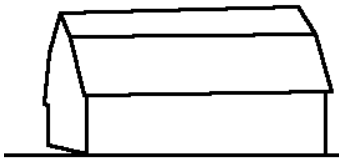

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THESIS ABSTRACT

This thesis is a study of how the use of recycled materials can express the passage of time within a society or culture. The building typology for the execution of this idea is a historical museum. The Theoretical Premise/Unifying Idea which influences this study is that the history of a material can be studied and interpreted and used to influence a new use. Using recycled materials decreases the use of valuable resources and provides a rich history of our ancestors which justifies this research.

KEYWORDS
Recycled Material
History
Previous use
Embodied meaning
Sustainable Architecture
Historical Museum

PROBLEM STATEMENT

How can the use of recycled materials express the passage of time within a society or culture?

THE SOI

STATEMENT OF INTENT

TYPOLOGY
Historical museum

THE CLAIM
Recycled materials possess the history of how they were previously used, who they were previously used by and, as a result, can influence the method in which they are reused.

Actors:	Recycled Materials
Action:	Possess
Objects:	History

PREMISES
Recycled material is any material which can be reused with its original purpose or after modifications for its new use.

Materials with a previous use embody a record of the lives lived in the time of their existence.

History shows the reasons that specific objects were used and why they were used in the manner they were.

THEORETICAL PREMISE/UNIFYING IDEA
The history of a material can be studied and interpreted and used to influence a new use.

JUSTIFICATION
Using recycled materials decreases the use of valuable resources and provides a rich history of our ancestors.

THE PROPOSAL

THE NARRATIVE

While driving through the open country of west central Minnesota, it is difficult not to notice the structures which have stood on the prairies for hundreds of years. Some of the old structures have undergone modification, some have been torn down, but many of them still serve a purpose to the dwellers of the rural communities.

These old barns seem to tell stories to the common passers-by and speak of the history of the area. The people of this area have the capability of telling the stories of their ancestors, and when given the opportunity they will gladly share their rich history.

This project not only gives the people of west central Minnesota an opportunity, but also provides a rare chance for the buildings to speak.

THE NARRATIVE

The most important aspect to me in this project is relating the building methods to those of the early dwellers of Midwest Minnesota. The settlers of those earlier days did not have a fortune to work with, nor did they have unlimited building materials.

Designing a project in such a manner is also important due to its strength of sustainability. In an age that strives for “green building,” a building method just as this creates the highest level of sustainability and considers the generations that will live on this land long after we are gone.

USER/CLIENT DESCRIPTION

OWNER/CLIENT

The Kensington Runestone Park Foundation in correlation with the Douglas County Museum will be the owners and the clients for the project.

USERS

This project will be open to the public and will provide the opportunity for local dwellers to share their stories with whomever would like to hear them. It will provide a space to display the important artifacts of the culture of the past and a visual timeline of how we have gotten to where we are today. Students and other community members will be encouraged to interact with the hands-on programs provided by the park.

MAJOR PROJECT ELEMENTS

EXHIBITION SPACE

A large portion of the project will be designated for the exhibition of artifacts. These artifacts tell the story of how people lived in this country for hundreds of years and how their innovative ideas made life much easier for them.

LIBRARY

There has been extensive research and a variety of literature dedicated to the immigrants of the Midwest. The library will provide a space to display these works and make them more accessible to the public.

COMMUNITY ROOM

The community room will provide visitors adequate space to hold gatherings and meetings.

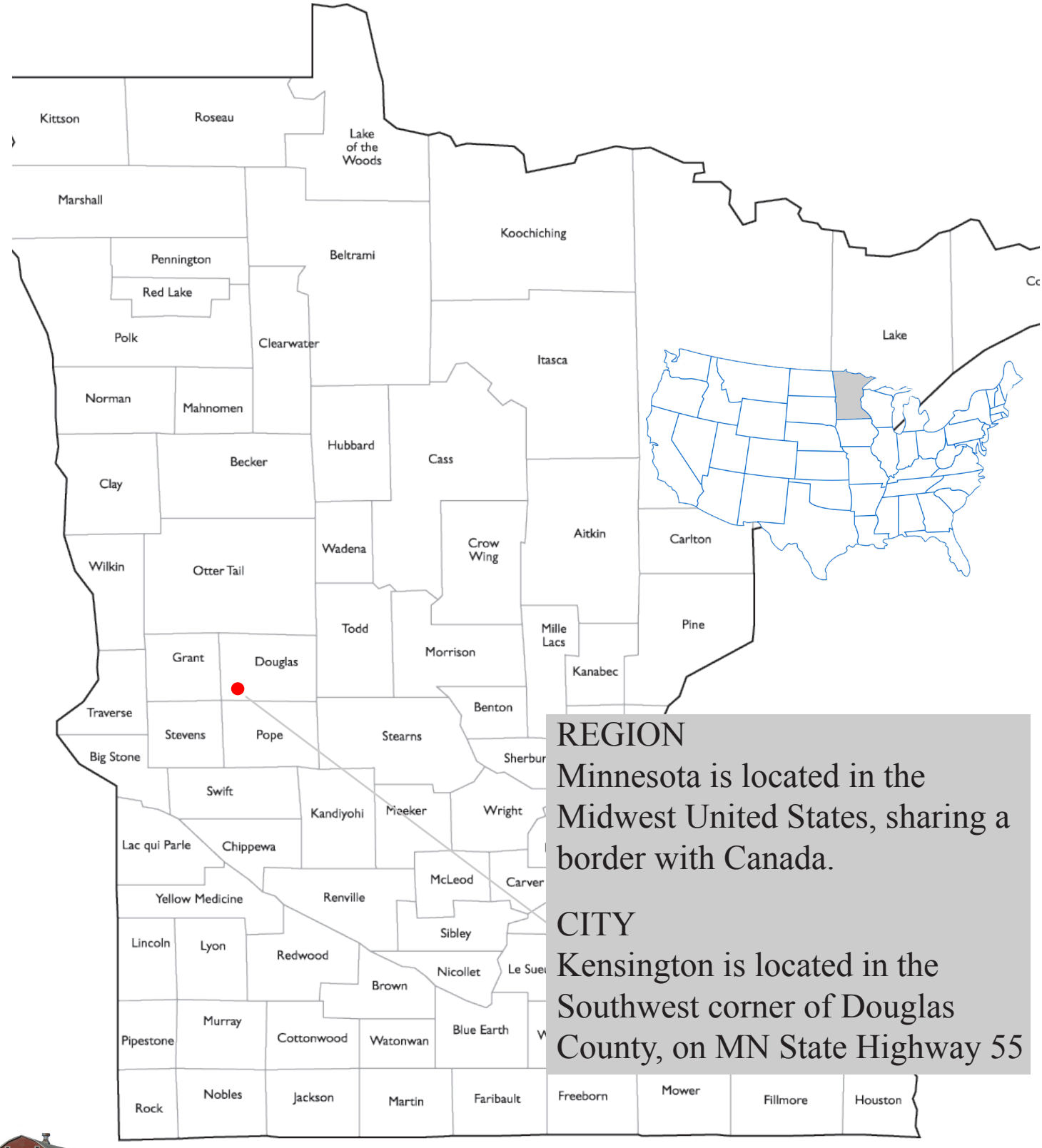
OFFICES

This will provide space for part-time employees of the foundation to work in.

WORKSHOP

Visitors can experience hands-on how their ancestors used common tools. The shop provides the space for monthly workshops open to the public.

SITE INFORMATION



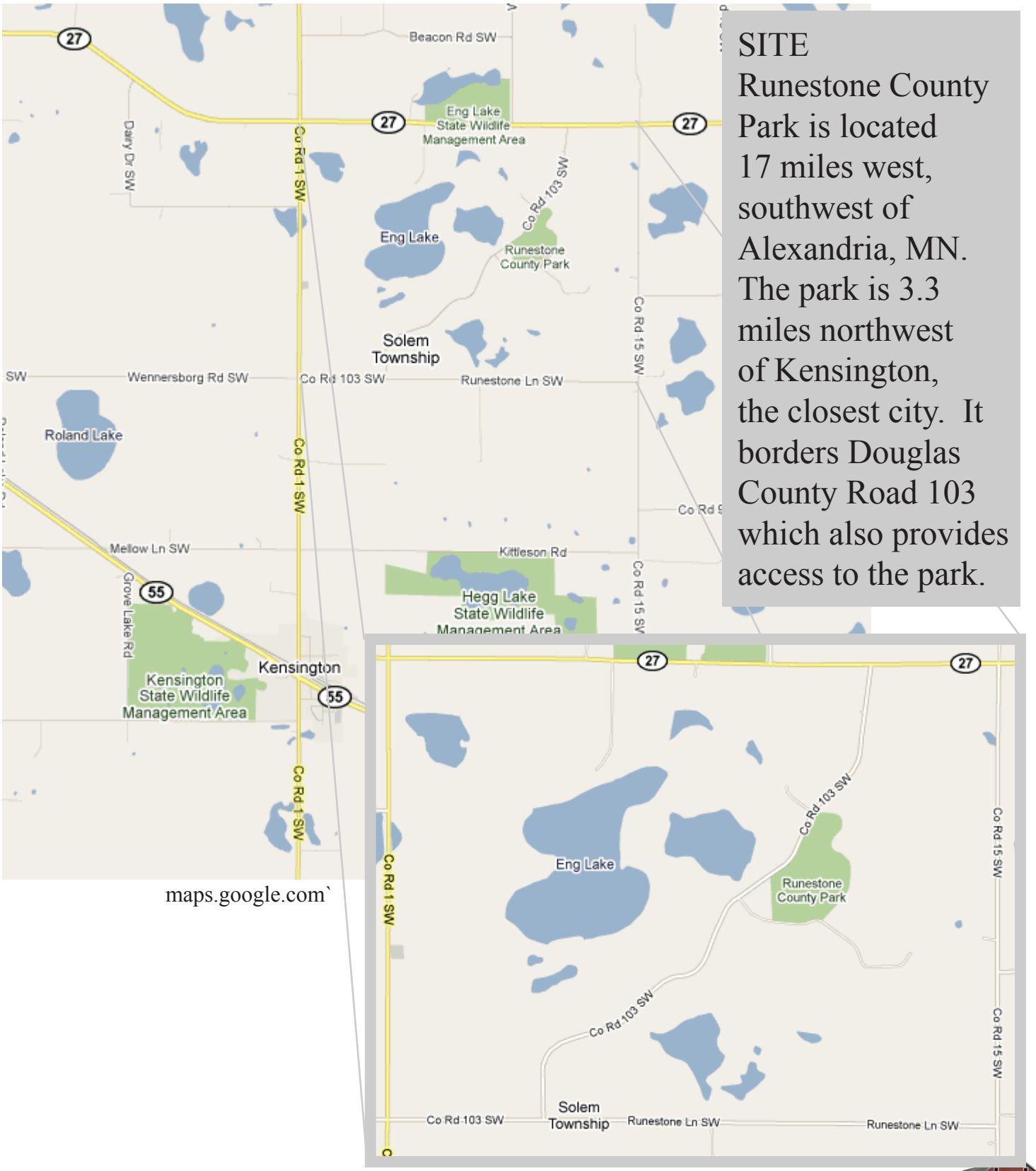
REGION

Minnesota is located in the Midwest United States, sharing a border with Canada.

CITY

Kensington is located in the Southwest corner of Douglas County, on MN State Highway 55

SITE INFORMATION



maps.google.com`

SITE
Runestone County Park is located 17 miles west, southwest of Alexandria, MN. The park is 3.3 miles northwest of Kensington, the closest city. It borders Douglas County Road 103 which also provides access to the park.

SITE INFORMATION

SITE

The park consists of 170 acres of wooded, gently rolling land, two shelters for picnicking, outdoor game fields, trails for hiking and cross country skiing, and a playground area.

This site is important to this project due to its existing attempts to display historical buildings and artifacts local to the area. The site is now home to Kensington's first jail, the railroad depot which previously stood in Kensington, and a remodeled dairy barn. All three buildings represent important aspects of the early dwellers of the area, but most important about the site is what has been discovered there.

In 1898, farmers of this site discovered the Kensington Runestone. After extensive research it has been determined that the stone came from Norwegians who ventured into the area in 1362.

PROJECT EMPHASIS

This project will focus on the re-use of building materials. More importantly, this project will test the limits of designing a one-hundred percent recycled structure. That is, can a building be built using only materials that had previous intentions? If unobtainable, what is the highest possible percentage of using re-used material?

PLAN FOR PROCEEDING

RESEARCH DIRECTION

Research will be conducted in the areas of the Theoretical Premise/ Unifying Idea, Project Typology, Historical Context, Site Analysis, and Programmatic Requirements. The greater part of my research will be analyzing barn structures that will be used for materials, including documenting and taking inventory of the available materials. Further research will consist of discovering methods of re-using these materials.

DESIGN METHODOLOGY

The method I will use to execute this project is a mixed-method model. I will gather and analyze both quantitative and qualitative data. This information will be organized together in order to provide integrated outcomes. The previously stated theoretical premise/unifying idea, typology, and emphasis will guide me through this process in its entirety.

PREVIOUS STUDIO EXPERIENCE

Second Year Fall 2007: Stephen Wischer
- Tea House - Fargo, ND
- Rowing Club Boat House - Minneapolis, MN
- House for Twins - Fargo, ND

Second Year Spring 2008: Mike Christenson
- Eladio Dieste Study - Montevideo, Uruguay
- Mass/Void Study - Fargo, ND
- Live/Work Unit Collaboration - Fargo, ND

Third Year Fall 2008: Cindy Urness
- Center for Excellence - Fargo, ND
- Lake Agassiz Regional Library - Moorhead, MN
- Eco-makover - Fargo, ND

Third Year Spring 2009: Ronald Ramsey
- Darrow School - New Lebanon, NY
- 44 Congress Parkway - Chicago, IL

Fourth Year Fall 2009: Darryl Booker
- High-Rise Design - San Francisco, CA
- Percussion Instrument for KKE Competition

Fourth Year Spring 2010: Mike Christenson/David Crutchfield
- Urban Planning - Jaipur Rajasthan India

Fifth Year Fall 2010 Ganapathy Mahalingam
- Research Design Studio - Green Roofs

THE PROGRAM

RESEARCH RESULTS

How can the use of recycled materials express the passage of time within a society or culture?

The earliest existence of museums as we know them can be traced to the Greeks and their temples which were built to acknowledge the goddesses of inspiring springs. Known as the Muses, these goddesses were the offspring of Zeus and Mnemosyne and held watch over the arts and sciences. From this, ancient Greeks coined the word mouseion, translated as the seat of the muses, to describe the temples that housed sculptures and scholars. As of today, the first known museum was located in Alexandria of ancient Greece and rightfully named the Alexandrian Museum. It is believed that the museum was built in 280 B.C. near the royal palace where Ptolemy I Soter reigned. The Alexandrian Museum was an education center dedicated to the nine muses and was used for the study of science, art, philosophy, and literature. The museum housed a collection of artifacts as well as a botanical garden and zoological park (Mondello, 2008).

In years to follow, European royalty would pick up the tradition of placing historical artifacts on display. Royal palaces and the cages of royal zoos were lined with the displays of past war artifacts. Whether for the acknowledgment of personal achievement or used to educate about the heritage of previous generations, the existence of museums is a trend that most societies have recognized (Mondello, 2008).

By the time immigrants began pouring into the United States the fashion of collection and display had time to develop and evolve. The settlers among the new land were adjusting to a new lifestyle and due to the change, museums were seen under a new light (Charles).

RESEARCH RESULTS

The first public museum in America was opened by painter and collector Charles Willson Peale in 1786. Unlike the common museums of Europe that displayed evidence of past events, the Cabinet of Curiosities in Philadelphia was constructed to document the ongoing history of discovery in the new world. Peale's vision of opening a museum in the Americas began when he was painting Dr. John Morgan's mastodon fossils. It was then that he realized people would desire to view a collection of such discoveries and he could fulfill his dreams of teaching people of the land they had yet to unveil. The majority of the early stage contents of "The Museum" were Peale's depictions of Revolutionary War heroes and a variety of curiosities. As the collections grew, animal, mineral, and ethnographic samples began to outnumber the paintings. The combination of American heroes and American nature started a craze that encouraged a new, unique American identity that set them apart from their European ancestors. The museum became the unofficial national museum, housing Native American artifacts and government-sponsored explorations such as the Lewis and Clark expeditions. The most popular display in Peale's museum was the mammoth skeleton, the assembly and mounting of which was the first of its kind. Because of the innovative displays Peale was compelled to create new methods of preservation. Although taxidermy practices were primitive at the time, Peale was able to create bird mountings that have survived the last 200 years (Charles).

RESEARCH RESULTS

Museums remain popular today. It is calculated that 850 million guests visit approximately 17,500 museums located within the United States each year. These numbers illustrate that on average, each U.S. citizen visits a museum three times a year. To put it into perspective, all the Major League Baseball, National Football League, National Basketball Association, and National Hockey League games combined have a total of 140 million spectators. Similarly, of all box office hits showing at American cinemas 1.5 billion are in attendance (Mondello, 2008).

"A museum is the memory of mankind"

-Philippe de Montebello,
former MMoA director

In the February 2002 issue of the magazine *Architecture* a combination of writers attempted to answer the question: **what is a museum?**

While writing of the multiple facets of Las Vegas museums Jacob Ward describes the museum industry strictly as a business. The strip of Las Vegas is populated with casinos and the owners are constantly contemplating how they can get more people to enter their casinos (Ward, 2002).

A Business

RESEARCH RESULTS

In 1998 Steve Wynn, owner of the Bellagio, discovered that if a museum was located adjacent to the casinos, it would give the passing visitors another reason to enter the establishment. The museum as a business is a trend that has definitely caught on in the city of Las Vegas. In one day's visit, tourists can view the Casino Legends Hall of Fame at the Tropicana Resort and Casino, the Wynn Collection of Fine Art, the Liberace Museum, home to luxurious car collections, the Las Vegas Art Museum, and the Guggenheim Las Vegas Museum at the Venetian, to name a few. That is, if the ploy of the owners to get the visitors to donate extra cash is unsuccessful. Vegas' first and last impression can even present the opportunity to witness historical remnants at the Howard W. Cannon Aviation Museum located within the McCarran International Airport. With the notion of the museum as a business, gamblers are able to catch a glimpse of what their money is purchasing as many of the museums are owned by the benefactors of the unlucky gamble. As Ward's article title states: "Picasso and Braque, Siegfried and Roy: In contemporary Vegas, there's no difference. It's all part of the show", Although many of the museums can fall under this category of "part of the show", displaying ridiculous tidbits such as the Elvis-A-Rama Museum and the Celebrity Wig Museum, there are just as many examples of historical displays, such as the Las Vegas Natural History Museum. With so many options in proximity, the tourists are provided with opportunities to examine multiple aspects of Americana, an opportunity proven successful by the millions who enter (Ward, 2002).

RESEARCH RESULTS

An Icon

While making money is a completely respectable and logical reason to put on an exhibit, Joseph Giovanna explains how a museum can also be an icon as Calatrava's Milwaukee Art Museum is to the Lake Michigan shoreline city (Giovanni 2002).

A Container

A museum can also be container as Amanda Schachter elucidates the Altamira Museum and Research Center of Cantabria, Spain (Schachter 2002).

An Archive

The Victoria and Albert Museum in London is also a topic, providing one example of museum as an archive. The V and A is just that, placing on display a physical timeline of the many articles designed by the British. The architect was able to create this time capsule near the busy streets of London. By using multiple layers the building is able to shield the chaos of outside life without the need of heavy, light blocking walls. The content within the museum exemplifies the historical progressions in a premise related to the taste makers. Moving through the timeline of designs, one can view how the course of design has changed over the years, transitioning from individual, high quality craftsmanship heirlooms to mass-produced objects in the more recent eras. The structure acts as the medium to the display of a historical time-line that allows visitors to view how design and methodology have changed over the years (Ghirardo, 2002).

RESEARCH RESULTS

"We have a building people are not going to tire of: you can't understand it all at once. It was worth sacrificing a little exhibit space; actually, it was absolutely necessary."

-Stacy Hollander, American Folk Art Museum director of exhibitions

A Design Problem

The American Folk Art Museum's architects describe their museum as being a design problem. The problem for them was creating a building within the hectic confines of New York City on a site that measures only 40 by 100 feet and to have the building stand out from the endless facades of Manhattan. Architect Williams relates this concept to sitting on a subway, viewing many individual faces of the strangers around, but all the faces make up the group as a whole, and some faces just get overlooked. It is with this sense of carefulness that the more successful museums are designed. The final product of the architect is not simply a structure that houses artifacts, but instead incorporates the objects and information into the building and displays (Cramer, 2002).

"Museums are often thought of as nice amenities. People don't think about museums as being a critical piece in our educational infrastructure in this country."

- Ford Bell, head of the American Association of Museums.

RESEARCH RESULTS

Barns are perhaps the most noticeable features of the countryside. Due to the change in farming techniques and overall change of general farm operation size, abandoned barns hint at a way of life that previously ruled the prairies. In the years of the pioneers, most Americans resided on farms or in small towns. Not only were the barns part of the agricultural practices, but all aspects of life of rural residents revolved around their barns. Barns were workplaces, dance halls, social centers and even religious sites. Today that lifestyle has clearly dissipated. Many different types of barns exist across America, but typically one barn type dominated specific regions and depended on the ethnic groups that occupied the region. Certain common features however, existed in most barn types. Areas that are barren of the isolated barns are normally evidence of warmer climates, since the main purpose of the working buildings were to house livestock, store harvests, and provide a work area for varying farming duties (Cleek 1995).

RESEARCH RESULTS

The most commonly seen barn upon the prairies of the west central Minnesota countryside is a large, two-story, gambrel-roofed barn. The gambrel roof, although more expensive to build, allowed for more height in the loft of the barn. Typical construction composition is made up of six to twelve-inch posts and beams made from locally farmed, hewn timbers. Barns of this category are normally finished with a vertical wood siding, but in the Midwest horizontal siding was predominant due to the regularly practiced construction. The barns were typically constructed on the ground in sections called bents. Once all the bents were constructed, they were raised and connected to other bents by girts. Societies often celebrated the event of raising the bents and held community parties. This could also be explained by the number of men it took to raise the bents, and the parties were a ploy to get neighbors to help. Over the years, as families and farming operations grew, the timber-framed barns were easy to expand. Along with the barns, it is not uncommon to see accompanying structures on the farm site with similar construction methods such as corncribs (Cleek 1995).

RESEARCH RESULTS

Forty percent of worldwide carbon dioxide emissions are contributed by buildings. As a response to this staggering number, global awareness has increased and building green has been viewed as a method to decrease the damaging emissions. Professionals have predicted that if building methods do not change it will be impossible to contain the effects of global climate change. The reduction of carbon dioxide emission is not the only positive consequence of building green. By implementing green buildings it is believed that it will positively impact the amount of potable water, reduce energy shortages, provide lower maintenance cost, and possibly even improve the environment that humans inhabit. The notion of building green, although finally gaining some ground, has been a concept considered since the late 1980s when the American Institute of Architects (AIA) began the Committee on the Environment. Not too far behind in 1993 the US Green Building Council (USGBC) was created and had goals of changing the building industry to consider its responsibilities to the environment. In recent years, the USGBC's Leadership in Energy & Environmental Design (LEED) program has taken flight and pledges to lead the industry to a better place (Yudelson, 2007).

RESEARCH RESULTS

The use of certified wood products is one step towards those goals. Regulations on wood harvesting and close monitoring of the use of sustainable wood products is one step that can aide in obtaining these goals. Recycled and locally harvested materials are two examples of green products which can also help the cause. The LEED certification system rewards designs with locally sourced materials. For example, a building can earn two LEED points by implementing at least 20 percent of products that are extracted, harvested, recovered, or processed within 500 miles of the building site. The LEED program's reasoning is to promote the advancement of regional economies which are focused on recycling and possibly even create new materials that perform at equal or higher values of those they replace. LEED takes into consideration the energy requirements to produce and demolish material. For instance, if a concrete structure is crushed and thrown away, the energy needed to break down the concrete goes to waste as well. If the concrete is reused, both the energy and material do not completely go to waste. LEED also rewards the use of salvaged material by rewarding a point for utilizing at least five percent of the total project value. A positive consequence is the benefit gained by local entities that deconstruct and salvage the materials. Negative consequences for owner and builder include availability, quality, costs associated with storage and transportation (Yudelson, 2007).

RESEARCH RESULTS

The history of a material can be studied and interpreted and used to influence a new use. This is my theoretical premise, unifying idea which was stated earlier in this thesis document. Based off of this statement and its underpinning concepts, I determined the necessity to gain knowledge on the aspects of the museum itself. That is, to understand the history of museums, why they exist, and the purposes they serve. I also deemed it necessary to obtain a grasp on the relationship between the pioneers of early rural cultures and the structures which provided them many facets of life. Lastly, I desired an understanding of sustainable architecture and the purpose behind the pursuit of sustainable architecture.

In order to gain knowledge about museums I chose to research the origin of museums, how they became present in the United States, and what factors influenced American museums. In conducting this research, I learned that museums have been utilized by humans for hundreds of years, although the first museums did not serve the same purpose they do today. As museums evolved they became a mode for rulers and governments to show off their accomplishments. Because the collections of artifacts and information were able to outlive the people who collected them, they later served as a narrative of how people lived previously. With the discovery of a new land the museum shifted its role into an educator teaching the public the things that existed in unfamiliar territory. Again, as the museums outlived their designers they served as a connection to the past.

RESEARCH RESULTS

Learning the role of barns to early settlers has helped me understand the great importance they played in the lives of the immigrants. In the beginning of their establishment the barns represented a milestone they would reach when their agricultural practices showed success. The envy of those who could see their neighbors' barn was similar to modern electronics today. Much more than a sign of status, a barn was able to provide for the homesteaders the flourished yields that they produced. Realizing that families often used the barns as their homes, living under the same roof of the livestock, helps put into perspective the importance of these structures.

In my research I was also able to uncover a concept which I had previously neglected to recognize. Organizations that attempt to maintain barns in order to glorify the importance they once served are present today. It will be important for me to consider the aspirations of such groups in the development of my project. I discovered that societies have been created that understand the destructive practices taking place on earth. The communities have incorporated guidelines in order to gradually decrease the harmfulness of these practices. It is very difficult to break societies' habits, but by educating and gradually enforcing new methods it is possible to change degenerative lifestyles

Researching these topics has helped me gain insight into the cultures that our country is based upon and will be a guide through the entirety of my project. I was able to clarify my premise that the history of a material can be studied and interpreted and it is now my goal to use this information as an influence to create a new use with as much significance as it once had.

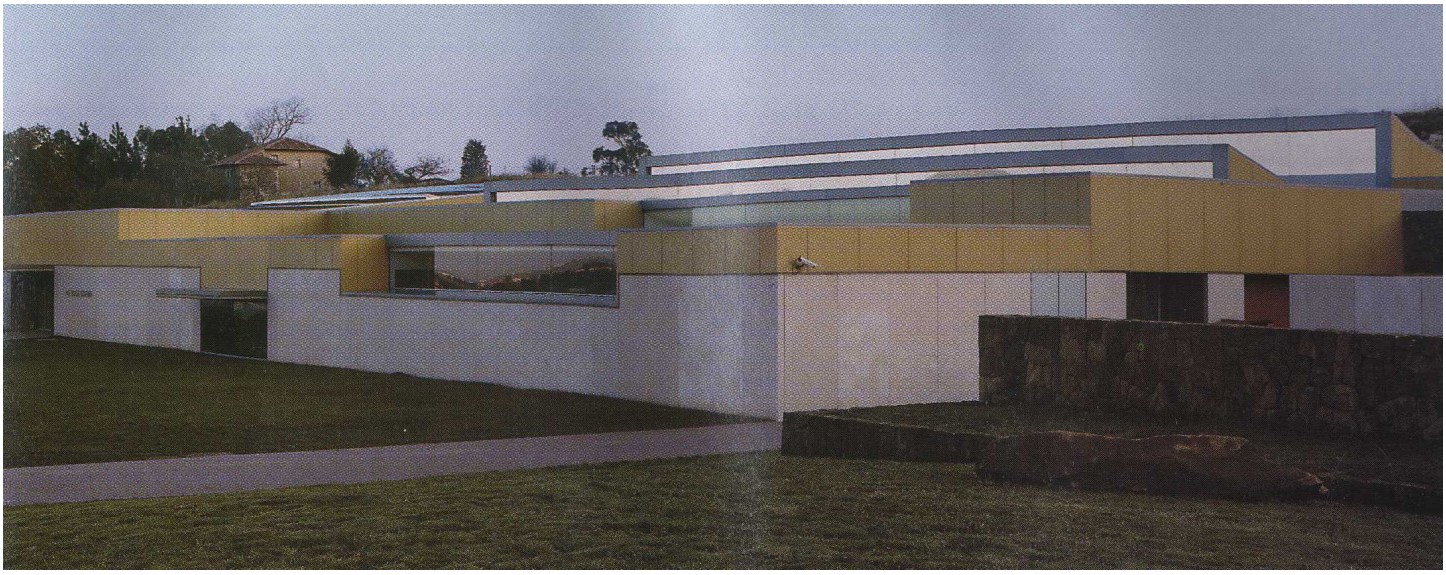
CASE STUDIES

ALTAMIRA MUSEUM AND RESEARCH CENTER

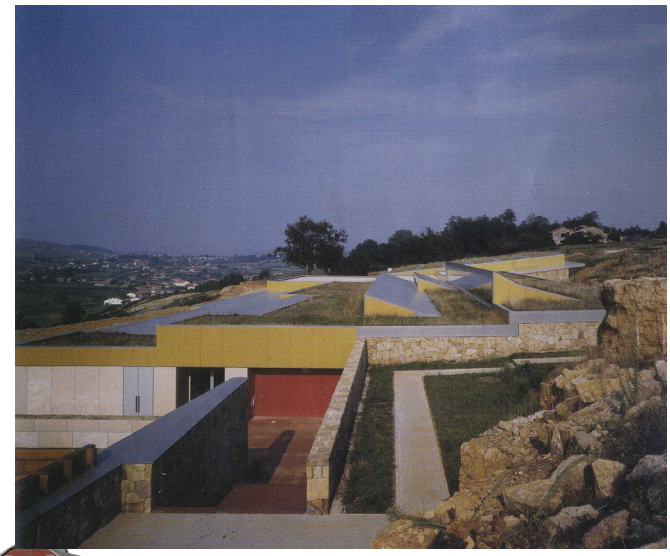
TYPOLOGY	Museum and Research Center
LOCATION	Cantabria, Spain
SIZE	28,000 sq ft
ARCHITECT	Jaun Navarro Baldeweg

CASE STUDIES

Unlike the case studies to follow, the Altamira Museum and Research Center is the home to the archeology findings of the site. Although all of the museums house important artifacts, this museum was structured around the prehistoric cave paintings.



Similar to the goals I have for my thesis project, Altamira focuses on the social and cultural remnants that have been left behind by the previous residents of the local land. The museum responds to the environment which these residents occupied and by creating an architectural display, it is able to cast the visitors into the same environment that the artists found themselves in 10,000 years ago.



The Altamira Museum and Research Center is unique due to its superb site-specific nature. The cave paintings displayed in the museum are a gem in themselves and are the sole purpose for the museum's location.

CASE STUDIES

STRUCTURE
The museum's unique structure utilizes the natural caves which surround the area. Cave walls are integrated into the buildings structure which is also held up by columns and load-bearing walls.

NATURAL LIGHT
Natural light which enters the museum is similar to that of the natural light that would enter the caves. Repetitious clearstory windows allow light to enter the space as if entering through the cracks of the stone.

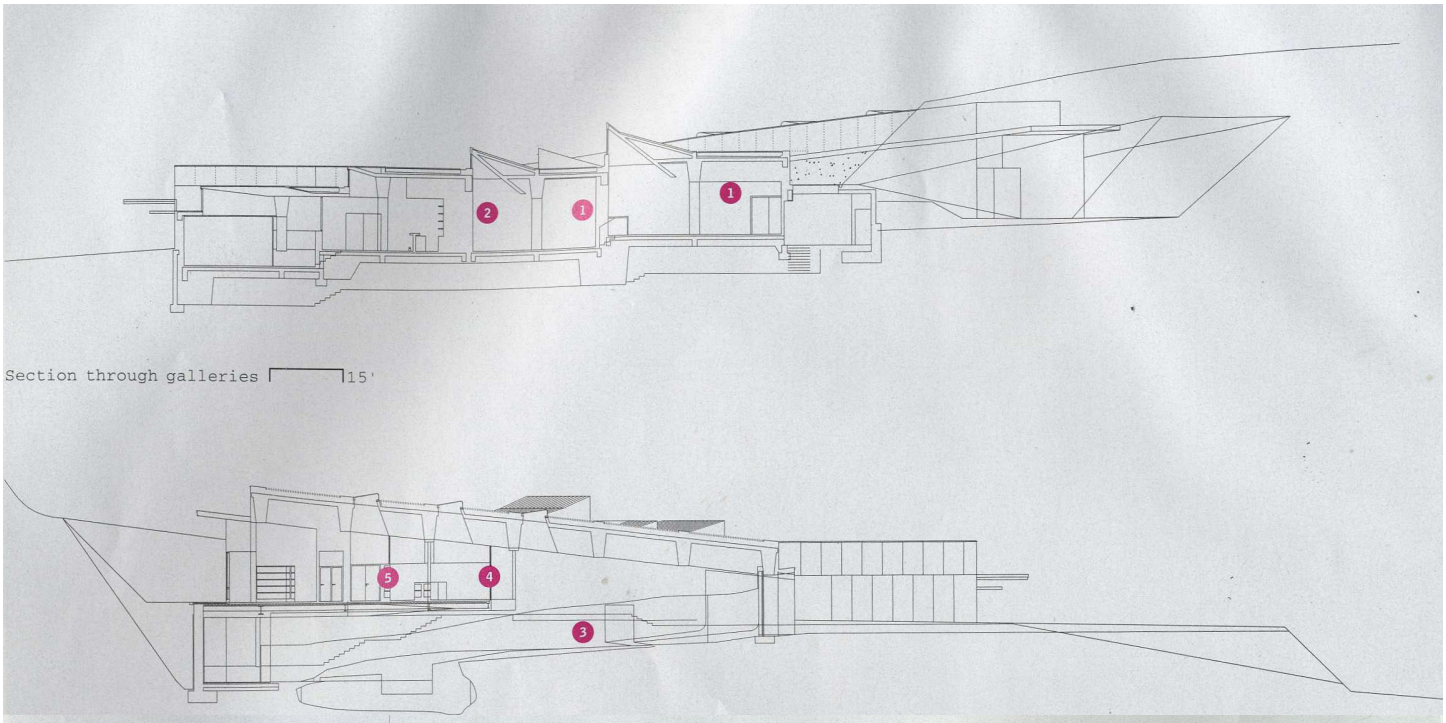
MASSING
From the exterior, the museum appears to emerge from the landscape. Its seemingly low profile spills from the native rock.

PLAN TO SECTION
The section of the museum follows the profile of the hill, corresponding to the floor plan as it extends into the earth.

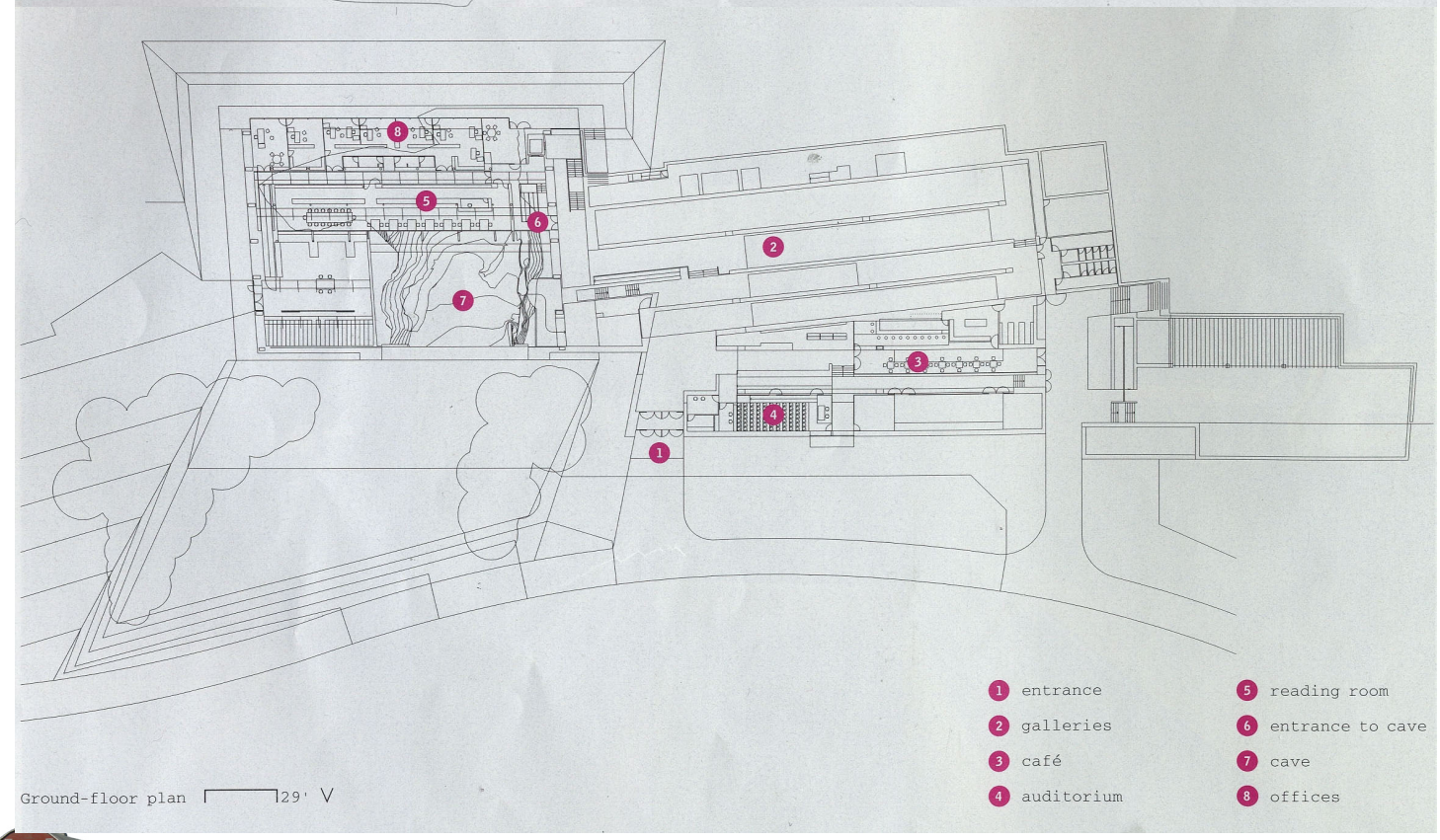
CIRCULATION TO SPACE
The journey through the museum begins with a gangplank starting at ground level and spills out onto a viewing platform where visitors can view the inside of the cave, just as the prehistoric artists had 10,000 years ago. At this point, visitors may enter one of two wings that encompass the research center, library, laboratory, and offices.

GEOMETRY AND HIERARCHY
The museum's geometric layout is of direct correspondence to the cutout of the cave and the hill which it lies on.

CASE STUDIES



Section through galleries 15'



Ground-floor plan 29' V

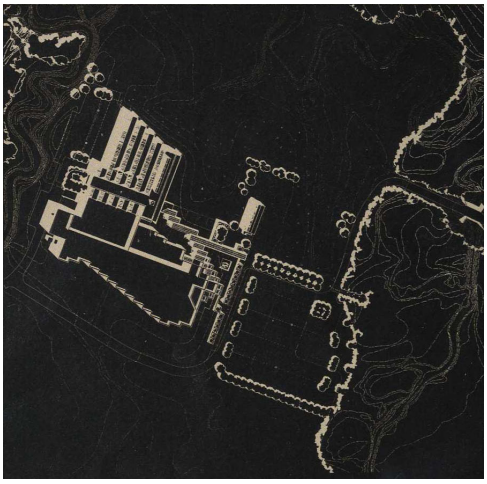
CASE STUDIES

KANSAS STATE HISTORICAL SOCIETY CENTER FOR HISTORICAL RESEARCH

TYPOLOGY	Research Center
LOCATION	Topeka, Kansas
SIZE	85,000 sq ft
ARCHITECT	Abend Singleton

CASE STUDIES

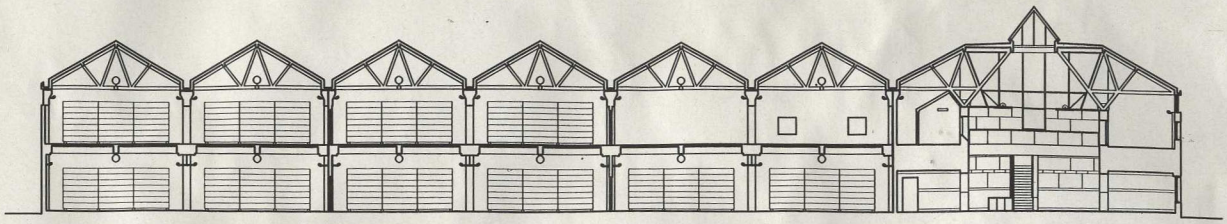
The stone and timber composition makes up exterior walls with minimal natural light penetration to allow for ample display surfaces. The lack of natural light entering through the walls is supplemented by a series of light panels in the roof which allow natural light to enter the building. The repetitive gable roof creates a community-like massing perception to the compilation. Just as the section of the building illustrates the repetitive formality of the individual spaces throughout the museum, the floor plan reflects this as well.



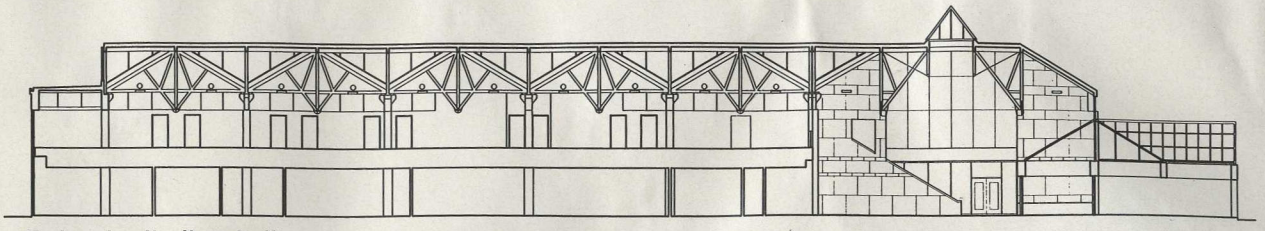
The most unique characteristics about this project is the fact that the barns were designed new. It is interesting to me that the architect intended to replicate the agricultural structure.

The Kansas State Historical Society Center is similar to the other studies in that it considers the visitor and the journey through the building. Museums provide the rare opportunity to force movement in a certain direction. This building is a good example of such direction.

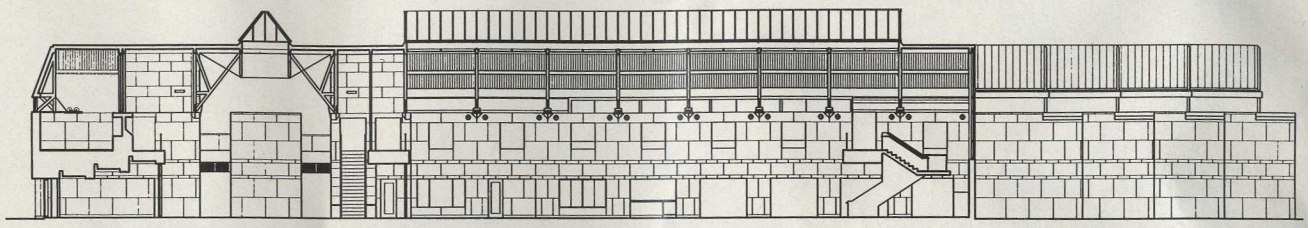
CASE STUDIES



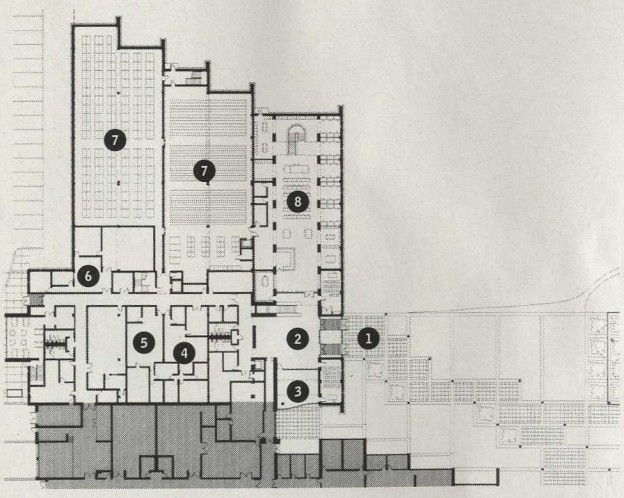
East-west section through storage and reference area



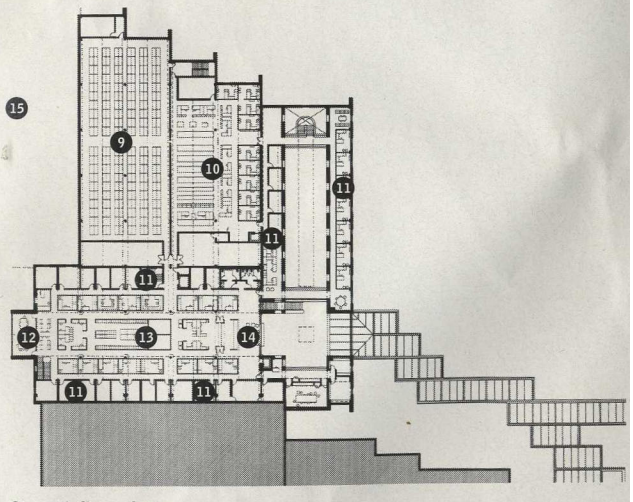
East-west section through offices



North-south section through lobby and office bays



First-floor plan

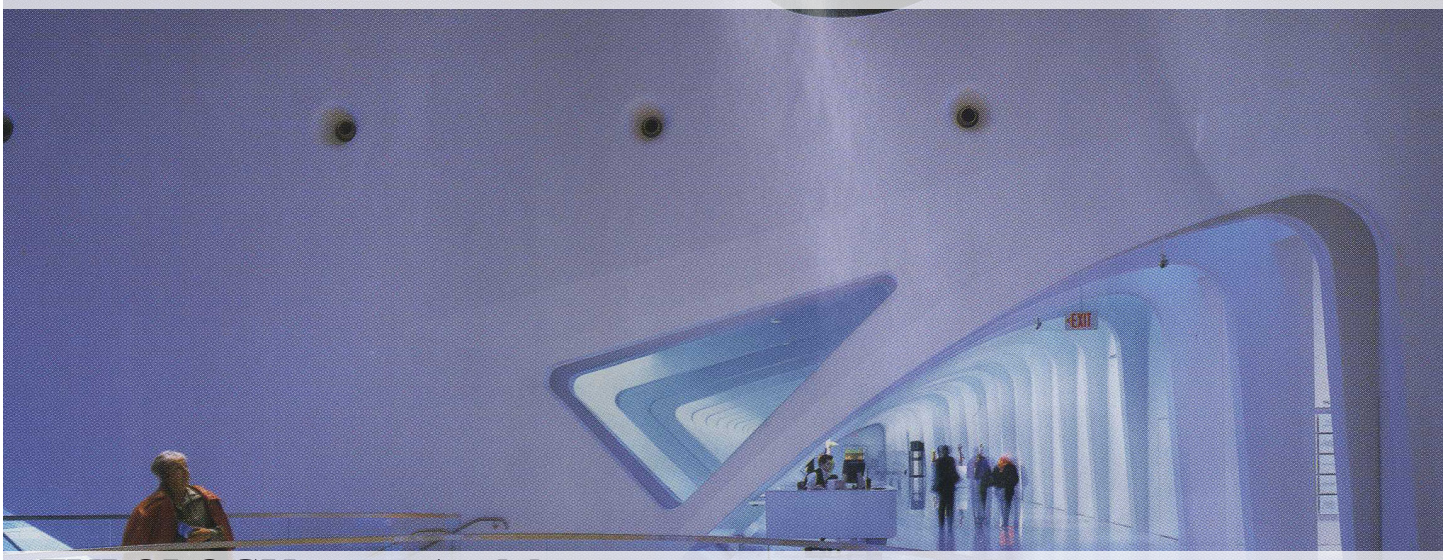


Second-floor plan

1. entrance
2. lobby
3. gallery
4. microfilm lab
5. photography lab
6. conservation
7. archive storage
8. reading room
9. document storage
10. document processing
11. office
12. conference room
13. records storage
14. reception
15. future expansion

CASE STUDIES

MILWAUKEE ART MUSEUM



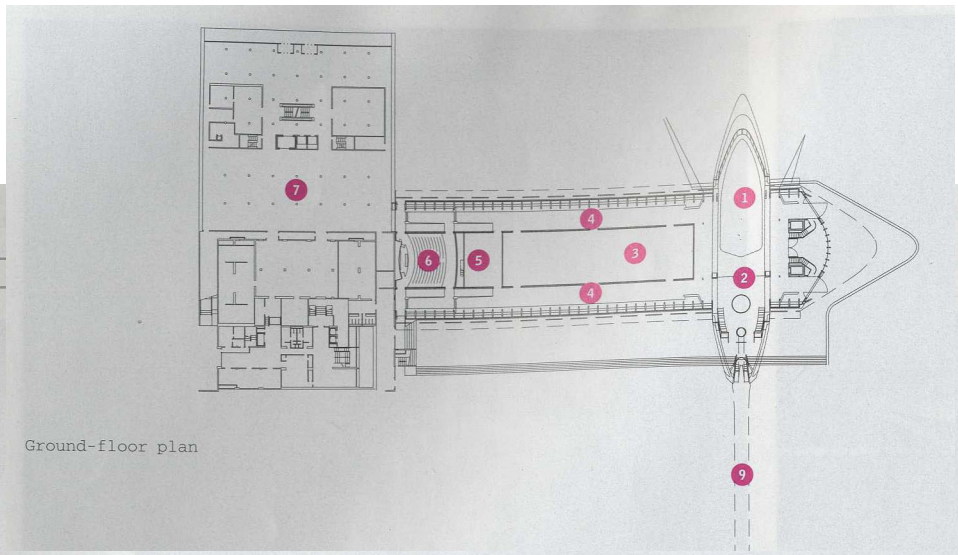
TYPOLOGY	Art Museum
LOCATION	Milwaukee, Wisconsin
SIZE	40,000 sq ft
ARCHITECT	Santiago Calatrava

CASE STUDIES

Besides the physical movement of the building, the Milwaukee Art Museum differs from the other cases by its transparent display of the structure. The rib-like steel supports can be seen from almost everywhere in the museum including the below-grade parking garage.

If one is given the opportunity to view Calatrava's museum at its opening or closing hour, it is clear what makes this building different from many others. Calatrava's superb understanding of architecture, engineering, and sculpture is made evident by the movement of this museum. With the simple push of a button, the building raises two wing-like spans and opens up as if preparing to take flight.

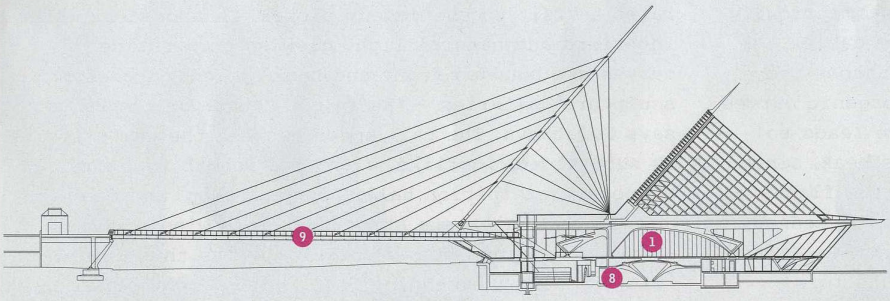
CASE STUDIES



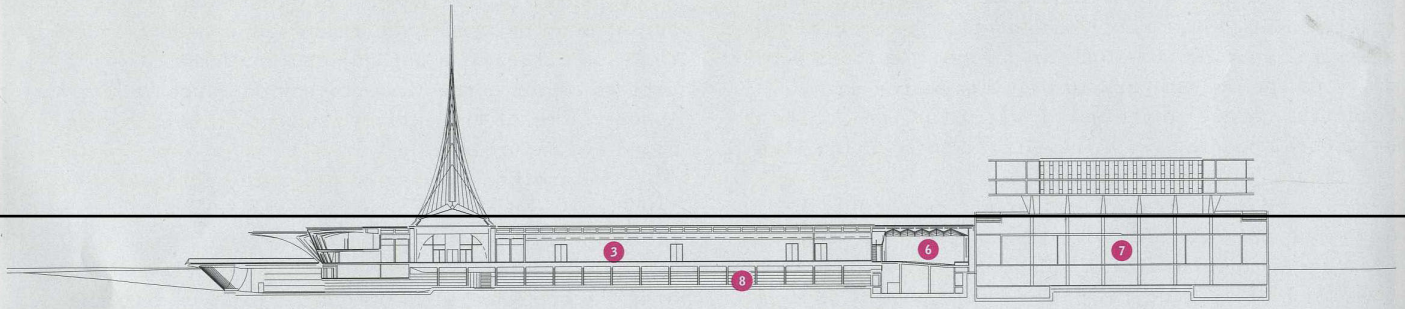
Ground-floor plan

1. Quadracci Pavilion
2. lobby
3. temporary exhibitions
4. sculpture galleries
5. museum shop
6. auditorium
7. original museum building
8. parking garage
9. pedestrian bridge

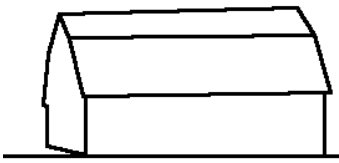
Basement plan 65'



East-west section



North-south section 44'

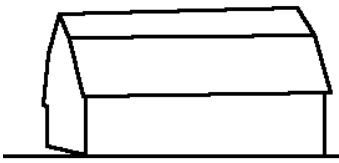


CASE STUDIES

Summary

The series of case studies which I chose to analyze were thoughtfully selected based on criteria. The first criterion used was the building's typology. Although I did not want to limit myself to researching only museums and historical centers, I did find it necessary that the building typology relate to the field. Next, I wanted to include a building in the series that created a strong recognition of the setting in which it was built. I also wanted to find a building that displayed an example of a relationship to a specific culture's way of living. Lastly, because I have not yet experienced a building that is structured around one specific artifact, I wanted one of the case studies to illustrate such an example. Because my theoretical premise / unifying idea relates to the process of material collection and interpretation, I did not feel the case study was the proper place to examine such correlations. Rather, studying a series of case studies that corresponds to spatial organization and site significance was more important to me in this section of study.

The first case that I chose was the Altamira Museum and Research Center because it related to my project in that it was structured around one specific artifact. Although the design is structured around the cave paintings, the architect chose not to centrally locate the paintings within the building. This was quite interesting to me because I have imagined a building with the specific display in the center of the building with all the focus towards the epicenter. Instead, I found it much more interesting in the case of the caves that the architect both forced the visitors to enter through the caves to get to the museum and related the guests to the painters themselves by encouraging the same views and experience of the painters. I feel that this could be an interesting concept to develop within my project and the visitor's experience with the Runestone. A design could focus on the relationship of Olof Ohman and the stone, either the means of which he discovered it or perhaps the rollercoaster of emotions that he and his family endured. Another lesson that I wish to gain knowledge from Baldeweg's museum is its site specific nature, because the caves are indigenous to the area and how well the museum relates to the features of a cave. Similarly, I wish to carry out this concept and relate my historical center to the lifestyle of those who live on the wetland prairies of west central Minnesota.



CASE STUDIES

The next case I chose was the Kansas State Historical Society Center for Historical Research. I decided on the case because of its example of the relationship to a specific culture's way of living. The architect was able to relate the historical research and collection display to those who resided in the area. This is an impression similar to the ones I wish to illustrate with my historical center's design. Another successful aspect of Singleton's design is the sense of place the museum holds. The structure is not much different than those found on the landscape of America's bread basket. Although I hope to display this with the use of the materials, I also find it necessary to create a form that is not impeding on the quaint lifestyles and building styles of west central Minnesota.

Finally, I wanted to include a building in the series that created a strong recognition of the setting in which it was built. My selection was finalized when I discovered the design of the Milwaukee Art Museum. The shoreline of Lake Michigan is important to Milwaukee and is possibly the sole purpose for the city's existence. Because Milwaukee does not depend on the great lake as much as it did in the past, the city was beginning to turn its back on the once important feature of the city. Calatrava was able to tie the city's roots back to the shoreline by creating a monument that recognized the setting in which it was built. Hypothetically, I would like to ask, what if the waters receded and the museum was no longer close to the lake's shoreline? Would this decrease the significance of the building and its setting, or would it in fact strengthen the concept due to its continual reminder of history? To relate this case to my project, I want to create a design which equally recognizes the setting in which it is set. I feel that this can be achieved by two different methods. First by incorporating the setting of which the building will set in, that is the prairies of west central Minnesota. But second, referring to the hypothetical question I asked, would the building design be strengthened by recognizing how the area existed in the past? If the story of the Norwegian Vikings is true and they were able to sail inland from New England all the way to Minnesota, then possibly a design which refers to its previous existence would in fact strengthen the concept due to its continual reminder of history.

HISTORICAL CONTEXT

The Kensington Runestone Park is the birth place of an intriguing, complex, and mysterious story that the land itself has been trying to tell for more than a hundred years. The mystery, along with the never ending debate is what has made it a continuous topic throughout history. Like the museums that we use to examine past cultures, the park and its contents display hints of a previous life. The difference is that within the walls of the museum, there is often reported information that explains the lives of the preceding inhabitants. It is uncommon to start a story from the middle; it is even more uncommon to start a story right before the end. The mystification of this story is that it is unknown where in the timeline of the chronicle the narrative begins. The only way it can be explained is that the last 112 years are known. One may think that a 112-year-old story must have uncovered the truths of the majority of the puzzle, but the truth as understood is that the story begins 648 years ago and the ending date is unknown. That is, if there even is an ending.

I will begin the legend of Kensington Runestone Park in August 1898. The park was then the home to Olof and Karin Ohman and their nine children. On one autumn day Olof and two of his sons, Edward and Olof Jr., were clearing aspen trees on their farm land. When one particular tree was uprooted, it displayed what had been grasped in its root for some time a flat stone. As the stone was turned over, the boys noticed that it contained inscriptions. The boys insisted that they take the stone back to their home when they returned after their hard day's work.

HISTORICAL CONTEXT

Olof copied the inscriptions onto paper and sent it to the University of Minnesota for analysis. Professor O.J. Breda determined the contents of the letter to be a mixed runic inscription. The professor immediately believed he was the subject of a practical joke and whoever sent it was familiar with runes and was attempting to mock the learned profession he practiced. Despite the lack of faith, other copies were sent to the University of Wisconsin, and other respectable universities in the Northwest. Professor George Curme of the German department of the University in Evanston, Illinois, received the forwarded message from Professor Hatfield of Northwestern Illinois (Nielson, 2006).

The first publication of the inscription's rough translation appeared in Curme's February 21, 1899 article Chicago Inter-Ocean. Due to the sophistication, varieties of runic lettering and numbering, and the errors made while copying the characters the writings were not accurately deciphered until multiple experts were able to examine the physical stone. To this day the most accurate translation is as follows:

HISTORICAL CONTEXT

On the face:

"Eight Gotalanders and 22 Norwegians of this* reclaiming journey far to the west from Vinland. We had a camp by two shelters* one day's journey from this stone. We were fishing one day. After we came home we found 10 men red from blood and death. Ave Maria. Save from evil."

On the side:

"There are 10 men by the sea to look after our ships fourteen days journey from this island. Year 1392."

* *this* and *shelters* are not confirmed to be exact translations. (Nielson, 2006)

HISTORICAL CONTEXT

Over the years the stone has changed ownership, the first of which was a controversial event. From Olof Ohman the Runestone was given to Hjalmar Holand in 1907 with no monetary transaction due to the multiple expert findings that deemed the stone and its writings were a fake. When Holand offered the Stone to the Minnesota Historical Society for five thousand dollars in 1910 it raised red flags at the Society. Once again the Stone was the cause of a dilemma. The Historical Society knew that they should only purchase the artifact from its rightful owner, but at the same time knew it would be an extravagant addition to their collection. The offer was eventually declined due to the high price, the fact that it would have been state funds paying for it, and the lack of proof of authenticity. Holand eventually sold the Stone to the Committee of Alexandria People and it has been displayed in Alexandria's Runestone museum since 1958. Along with changing ownership the Stone has done extensive traveling. In 1911 it went to France and Norway to undergo further research and in 2003 it would finally travel to Sweden for display at a three-month exhibition at the Historiska Museum (Nielson, 2006).

HISTORICAL CONTEXT

The back-and-forth debate about whether the Stone was real turned around and approached acceptance of authenticity from 1912-1949. During this time period Holand presented lectures, wrote articles and published three books. In 1949, however, doubt returned after the Smithsonian Institution display caught the interest of Erik Wahlgren and Theodore Blegen. These men were responsible for authoring papers and books which would place the stone back in negative light for more than 30 years. Nineteen eighty two signals the year which things turned around again for the Runestone when Robert A. Hall published a book titled *The Kensington Rune-Stone is Genuine.* The book sparked the inspiration of eight papers published from 1986-2005 that supported the authenticity of the Stone. The most substantial representation of evidence is the work of Richard Nielson and Scott F. Wolter, who spent the greater part of five years gathering factual information that the Stone was not a hoax by Olof and is proven to be at least older than two hundred-year-old tombstones of similar physical makeup that underwent similar elemental exposure (Nielson, 2006).

HISTORICAL CONTEXT

The first plans to convert the discovery site from the Ohman family farm to a public place of interest began in 1927 with the organization of the Runestone Foundation. On April 24 of that year, an article in the *Park Region Echo* announced the plans to publicly raise funds for a $300,000 monument that would stand 204 feet and 55 feet in diameter at the location of the infamous find. The foundation collected support from Wisconsin, Iowa, South Dakota, North Dakota, and Montana and seemed to be on its way. Olof's excitement about the monument was documented in the letters he sent to his family in Sweden, describing the monument and the publicity he'd been waiting 25 years to gain. The story of the Stone and its site once again fell upon unfortunate times with the arrival of the Depression. A significant fund had already been raised, but all hope was lost when the Depression hindered plans and the money was lost. Nineteen twenty nine would prove to hit harder than any recession when 27-year-old son David Ohman committed suicide in the Ohman home. Six years later Olof Ohman passed away at 80 years of age (Nielson, 2006).

HISTORICAL CONTEXT

When public interest arose again in the 50s and 60s, Cliff Roiland aided in the organization still existent Kensington Boosters. The group signed an option to purchase 110 acres of the Ohman farm. The first 80 acres were purchased in 1973 and in the next year the property became the right of Douglas County as a county park. Although not quite the luxurious monument initially proposed, a memorial was finally placed at the top of Runestone Hill. It includes monuments with names of contributors to the Runestone Park Foundation, a plaque with the English translation, and Minnesota, Norwegian, and Swedish flags are raised daily. The final parcel of land was purchased in 1983 and the park is now 170 acres.

The County Park today is used year-round by the public. During summer months two picnic shelters large enough to host large gatherings are used by private and public groups. Outdoor games such as a volleyball court, softball field, and playground are used. Visitors can also enjoy the breathtaking views seen from the miles of trails that loop through the park and to the shores of Eng Lake. A renovated dairy barn-turned-community center has amenities such as bathrooms and a full kitchen which is available on a first-come-first-serve basis. The barn is heated in the winter to allow the guests who enjoy sledding and cross country skiing a place to warm up. Next to the barn, the Ohman house still stands. However, due to the condition of the aged house it is no longer possible to enter the interior where the Ohman family spent their days (Nielson, 2006).

HISTORICAL CONTEXT

The Ohman family would like to see the Runestone return to the farm where it was discovered if a suitable facility were constructed, such as a state-of-the-art interpretive center. The family wanted to see Olof's wishes granted by having the Stone placed where it could be properly displayed and studied. The family has no intention of pursuing the Stone as their personal property. "The Stone doesn't belong to anyone, it belongs to everyone" (Nielson, 2006).

"The Stone doesn't belong to anyone, it belongs to everyone." -Darwin Ohman

GOALS

North Dakota State University has taught me the tools necessary to design, organize, and present architectural ideas through many different mediums. It is because of this high level of training that I feel I am capable of setting high goals for myself both in my career and in the exploration of this thesis, developing a plan of action to obtain these goals, and successfully carrying out the lofty objectives set before me.

Of the three environments which this thesis exists (academic, professional, and personal) the professional is most important to me and my advancement. It is in this approach that I wish to obtain a professional demeanor through the research, development, and presentation of my thesis process. I hope to use the tools that I have acquired on previous projects to execute at the highest level a project which is evidence of the accredited degree in which I have pursued. Similarly, I plan to carry the premium standards into a professional career that enables me to continue an education and perform in a leadership role.

The personal goals that I have set for myself also reflect the high standards which my education has ingrained in me. There are aspects of past projects which I feel I am able to excel at, throughout this thesis project I wish to expand on these aspects to ensure a rewarding final completion. But more important to me are the aspects which I feel I often times struggle with. I plan to sharpen my ability to produce graphical presentations that are clear and concise. The most significant personal goal that I have set for myself is to execute an entire thesis design that both relates and incorporates the imperative historical underpinnings which this thesis project is based on. I hope to create an architectural concept that grasps the ideas carried on by the hardworking men and women that have survived the harsh living on the plains of west central Minnesota. I will execute this by gaining a complete understanding of how they lived, the innovations that made life easier and more enjoyable, and the buildings they constructed to aide in their survival.

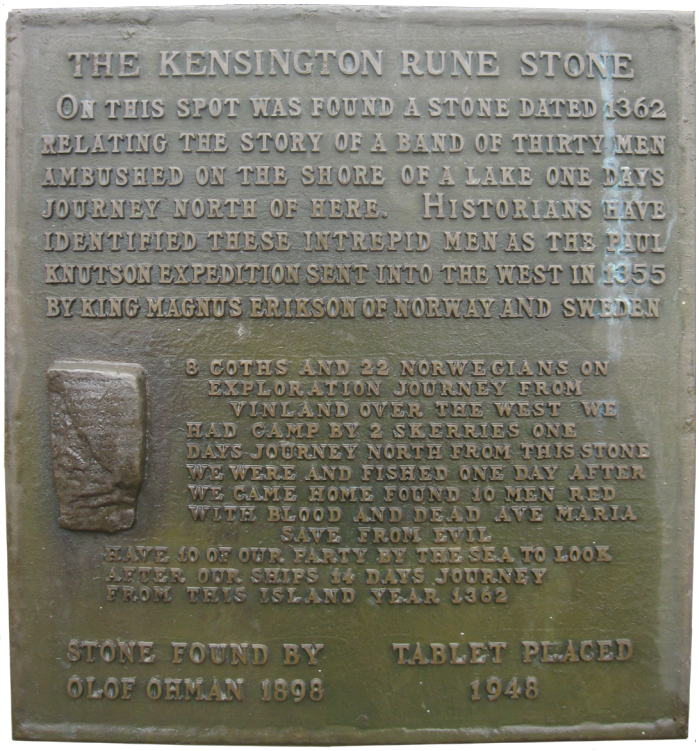
GOALS

The academic goals I have set for myself include striving for the level of excellence that is expected of a graduate in any field of study. In addition, I find it necessary to focus my interpretation of this project in a manner similar to that of a seasoned professional.

For both academic and personal advancement, I wish to explore the architectural theory of reconstitution. Architectural theories of the past are a main focus in the study of the history of architecture. We often learn about the concepts such as restoration/renovation and rehabilitation, but within this study I wish to develop the idea of reconstitution. Reconstitution is a term used fairly commonly in architecture, but it often refers to the reuse of systems and single components. With this thesis process, I hope to gain an understanding of the possibilities of complete building reconstitution. That is, can a building be disassembled, rearranged and reconstructed with a new function? Within this study I strive to ask and answer questions such as; how many different ways can a building be taken apart? Is it possible to retrieve every single material for its reuse? Also, does the manner in which the building is disassembled influence the use and design of the future composition?

It is this interest that will drive me into and through this thesis project. With the completion of this project I desire to continue the exploration of building reconstitution and plan to further develop these ideas in such a way that it may shape my architectural career.

SITE ANALYSIS



SITE ANALYSIS

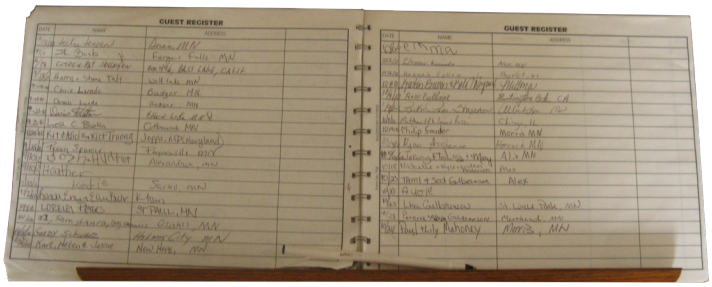
The Kensington Runestone County Park is located in the rural wetland prairies of Douglas County. Access to the park is mainly vehicular traffic due to the secluded nature of the park. The only exception is the few farmlands surrounding the park in which the residents work the land they reside on. Upon approaching the site, one may view for miles and miles the vast prairie that extends through the region. Douglas County Road 103 slices through the square mile section where the park is found, with frequent curves avoiding the many lakes and groves of trees.

Once the park is finally reached, one is welcomed by the typical brown sign with large carved, yellow letters announcing arrival. It is at this point where the historic buildings of the area can be seen. The buildings are arranged as if they were taken from their original location and placed on display for all park-comers to see. Most noticeable is the bright red renovated dairy barn which is also the only building at the park that has amenities such as electricity and restrooms. Adjacent to the barn runs an asphalt road hardly wide enough for two lanes of traffic.

While following the road up the hillside, curving through the sloughs, the many trails that dissect the sight are seen. During summer months, the trails are mowed and barren of the waist-high prairie grass allowing hikers paths to witness the virgin land. In the winter months, the paths remain visible as they are groomed for the use by cross country skiers and the occasional toboggan.

Continuing east up the road, one passes a picnic shelter before the termination of the road. Four tall standing flag poles mark the end of the road along with the highest point in the park. It is at this location where one can experience a 360-degree view of the surrounding prairie and an active farm place across the small lake. Approximately 100 feet from the flag poles stands a plaque describing and marking the discovery of the very stone on which the existence of the park is based.

SITE ANALYSIS



bing.com/maps

The native plants which survive in the park and the surrounding area are vulnerable to the changing of seasons. Each time one visits the park they may find the colors of the park entirely different from the previous visit. Whichever color the seasons paint the park, the colors grasp the entire area as far as the eye can see.

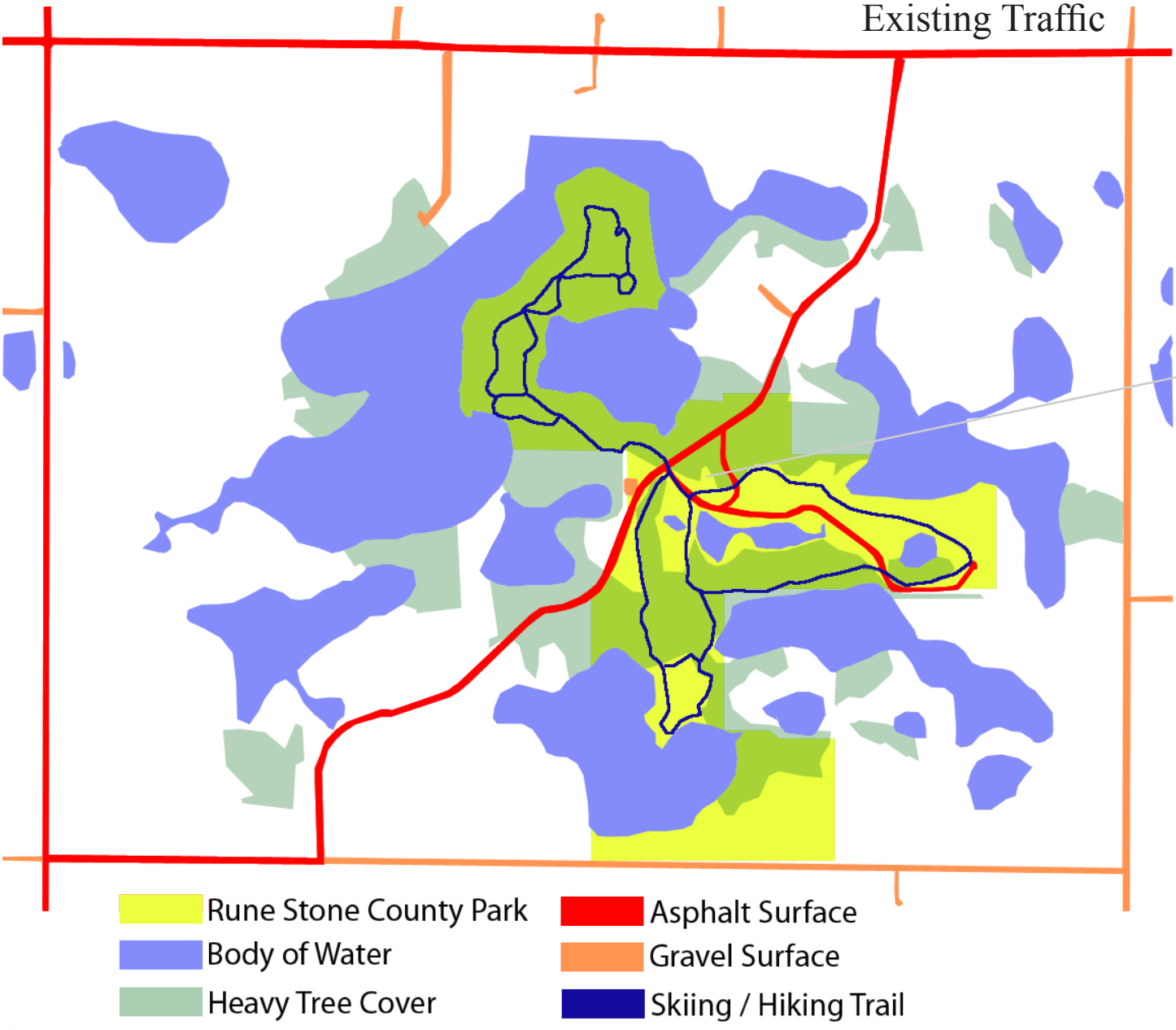
The small bodies of water within the park hold water year round with their supply coming from precipitation and the drainage of the rolling hill landscape. The clear water evades most pollutants, but can become home to an algae film after months of summer sun exposure due to the lack of traveling currents.

Just as the roads are shaped by the groves, hills, and wetlands, the wind is also directed through the landscape. The most vulnerable area to wind is the top of the hill where the flag poles stand, as there is nothing but a handful of evergreens blocking the fierce wind which can cut through the hillside.

The park shows relatively low signs of human disturbance with the exception of the historical buildings and the maintained paths. The park is no longer home to any residents, but with examination of the guest book located in the small chapel, one can learn of how many visitors the park has seen in the recent days. The two picnic areas and dairy barn turned community center houses both public and private gatherings.

The visual signs of distress of the park are those commonly found in natural wooded areas such of that of dead, fallen trees. Natural erosion takes place as water travels down to the wetlands, but the low, gradual slope of the land eliminates any major deteriorations of the earth.

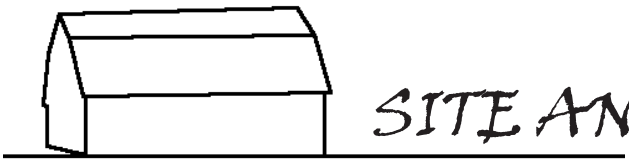
SITE ANALYSIS

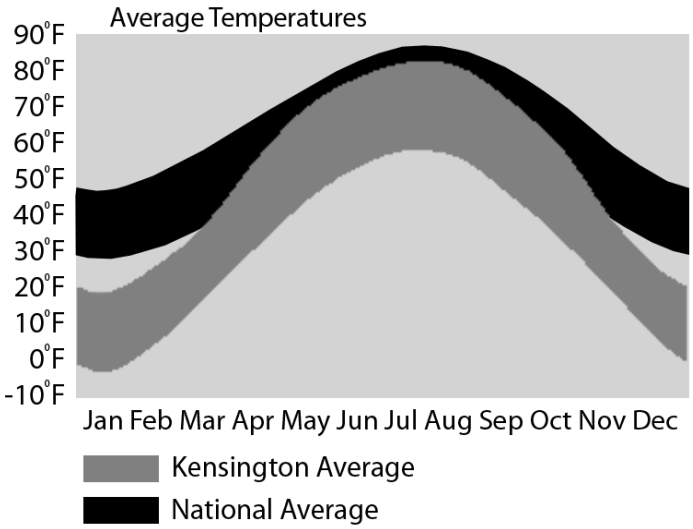


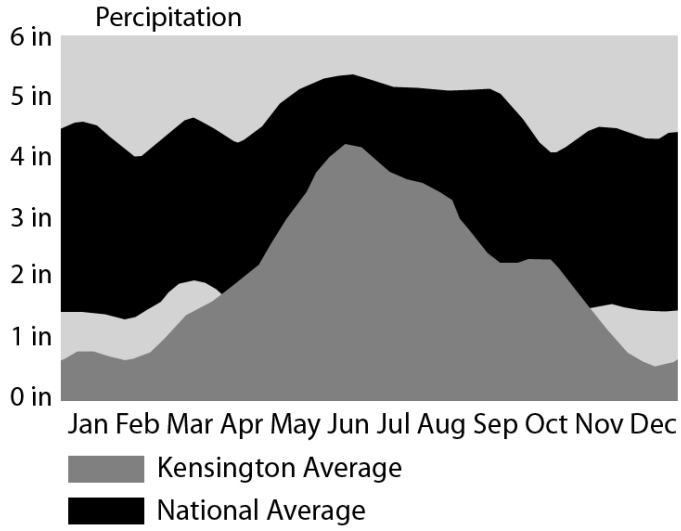
SITE ANALYSIS

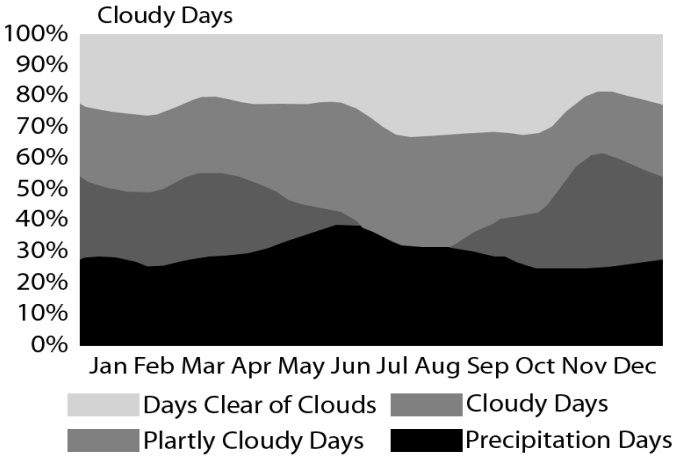
Existing Structures

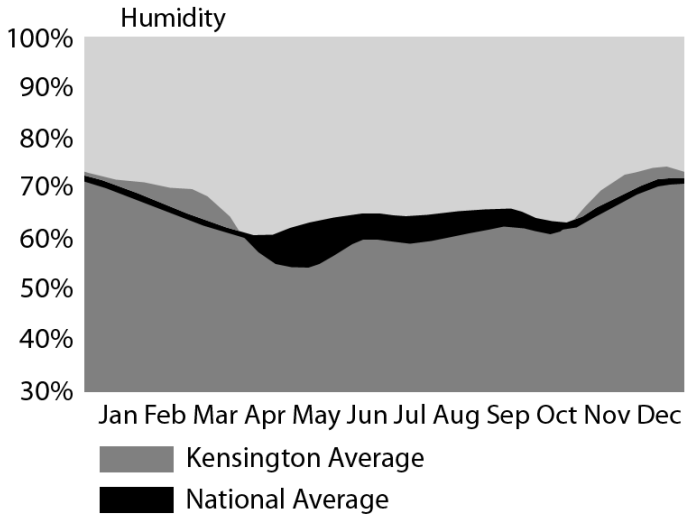
SITE ANALYSIS

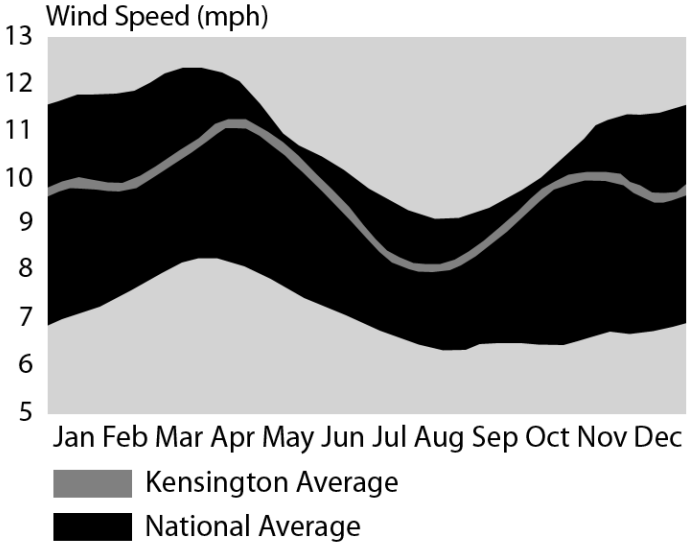






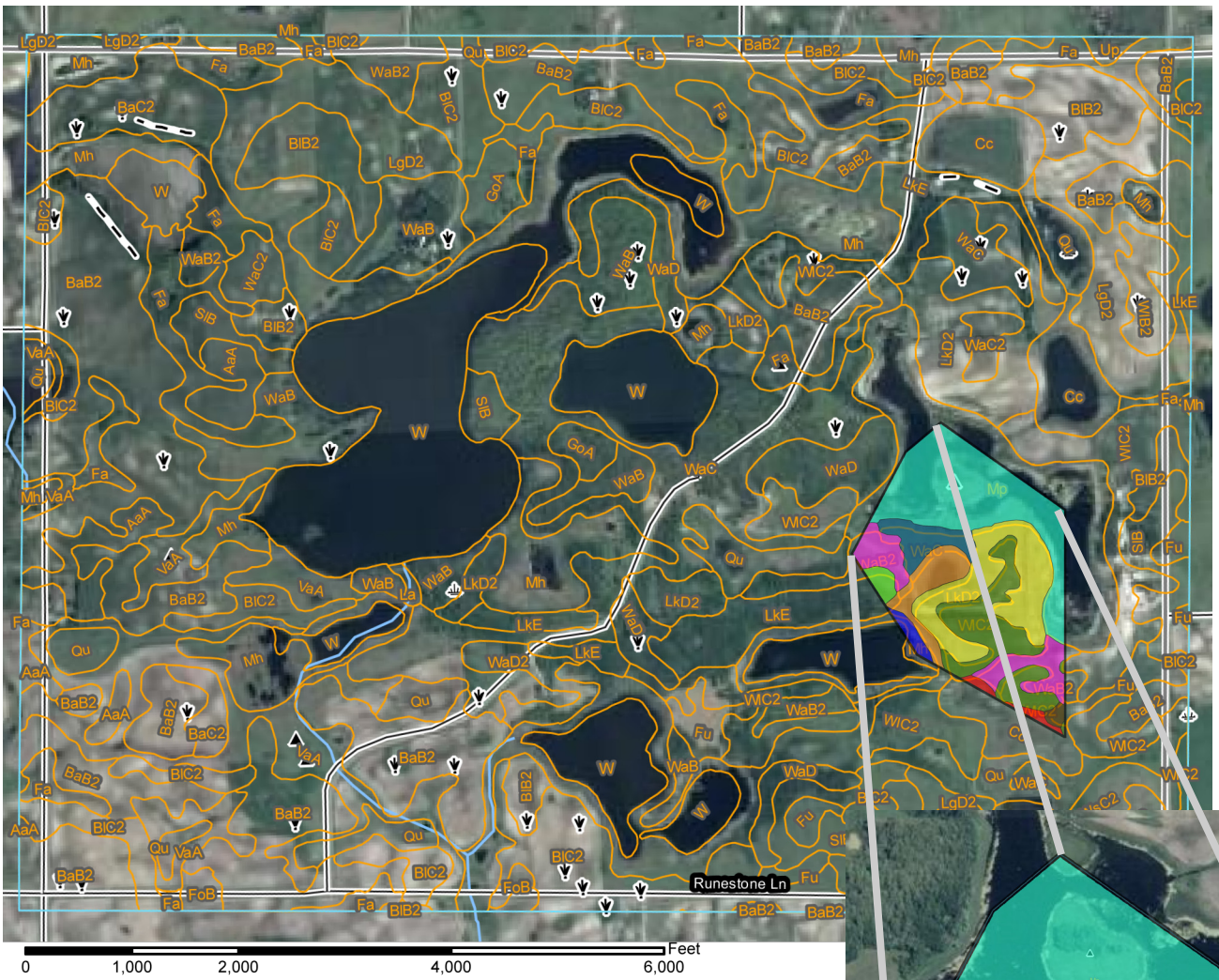


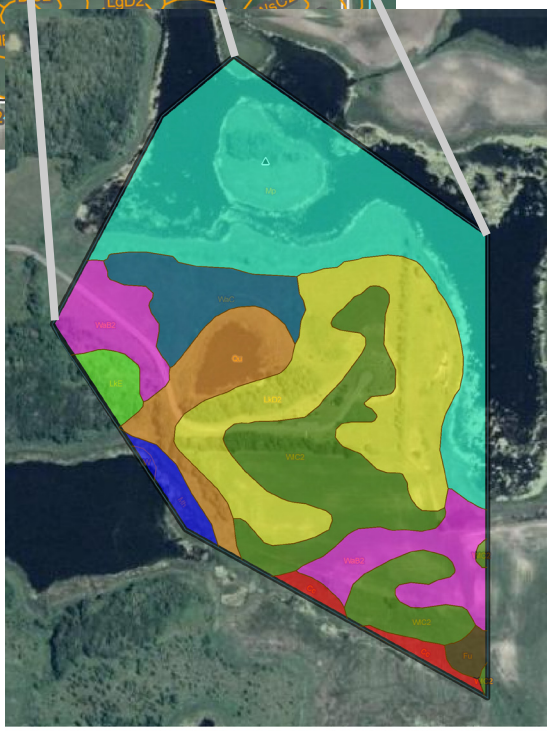




SITE ANALYSIS

Soil Types





- Cathro muck
- Fulda silty clay
- Millerville mucky peat
- Quam mucky silty clay loam
- Marsh
- Langhei-Waukon loams, 12 to 18 percent slopes, eroded
- Langhei-Waukon loams, 18 to 24 percent slopes
- Waukon loam, 2 to 6 percent slopes, eroded
- Waukon loam, 6 to 12 percent slopes
- Waukon loam, 6 to 12 percent slopes eroded

N

0 150 300 600 900 Feet

SITE ANALYSIS

Spring Equinox

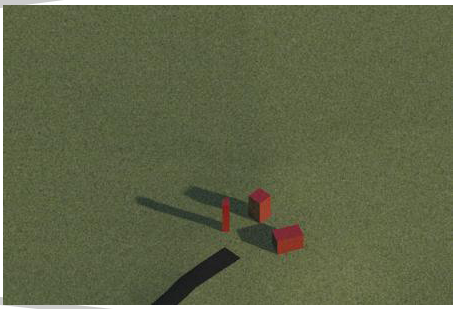
Summer Solstice

Fall Equinox

Winter Solstice

SUN and SHADOW STUDY

SITE ANALYSIS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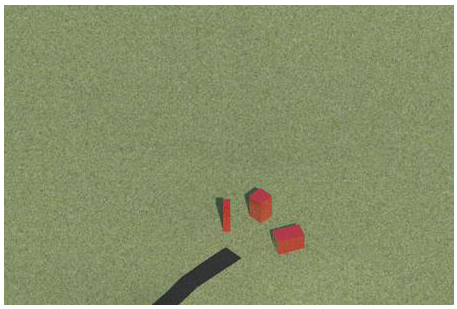
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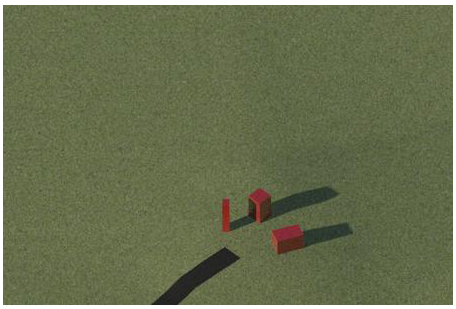
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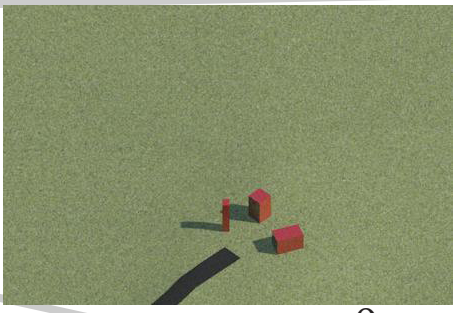
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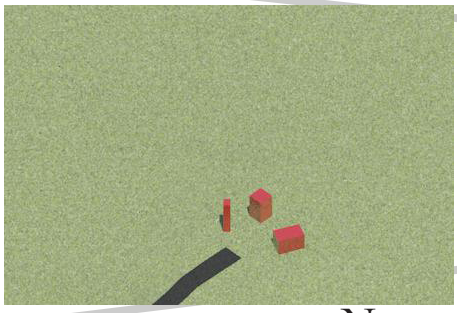
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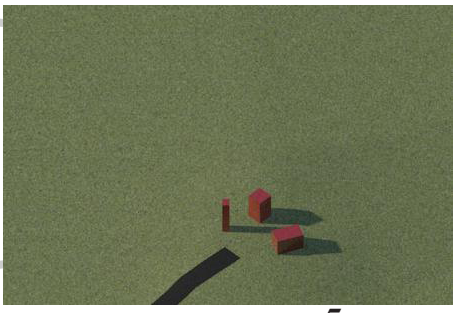
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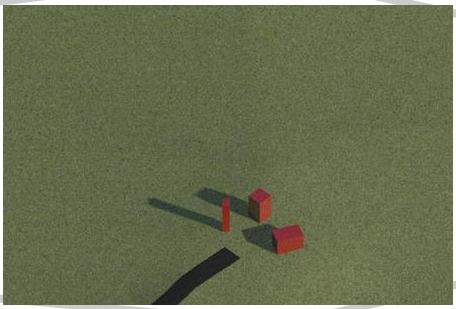
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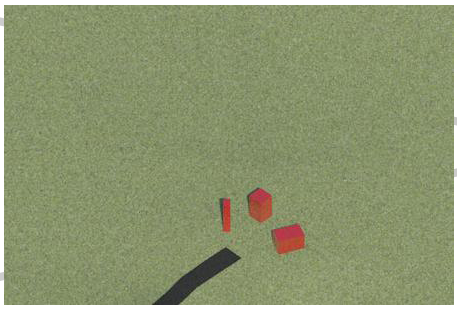
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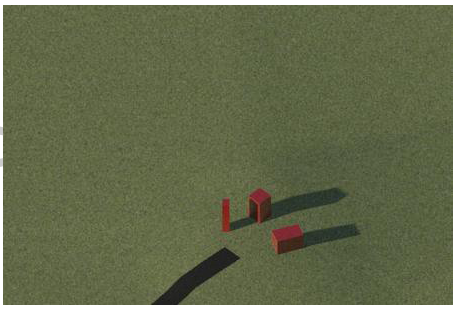
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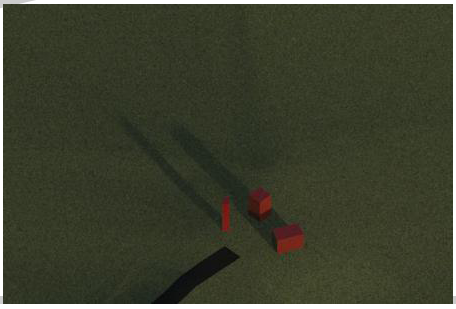
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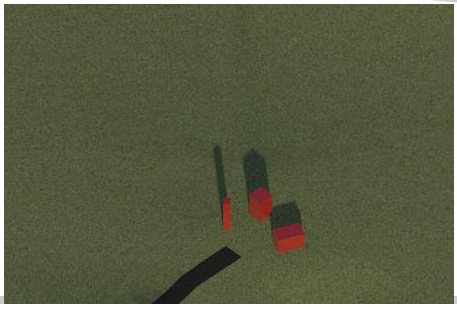
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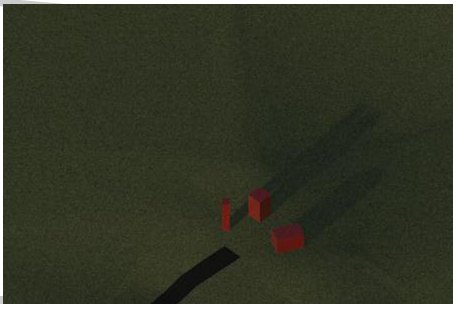

3 p.m.

SITE ANALYSIS

This Geology map of Minnesota was used by researchers of the Kensington Runestone to help determine the possible origin of the stone. The red and blue-gray areas contain the same physical composition of stone that the Kensington Runestone is comprised of. The black dot illustrates where the stone was found by Olof Ohman in 1898.

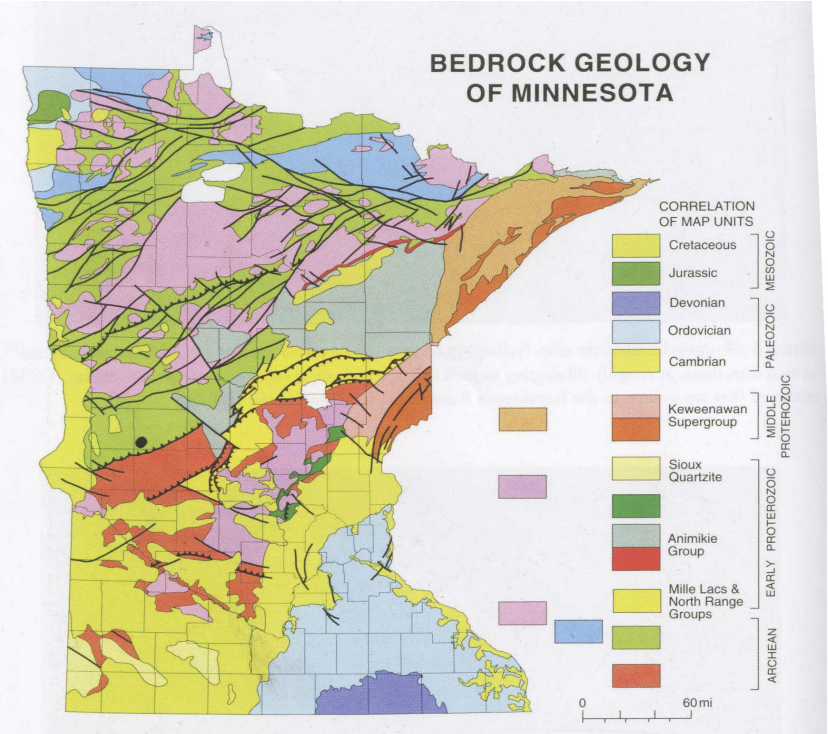
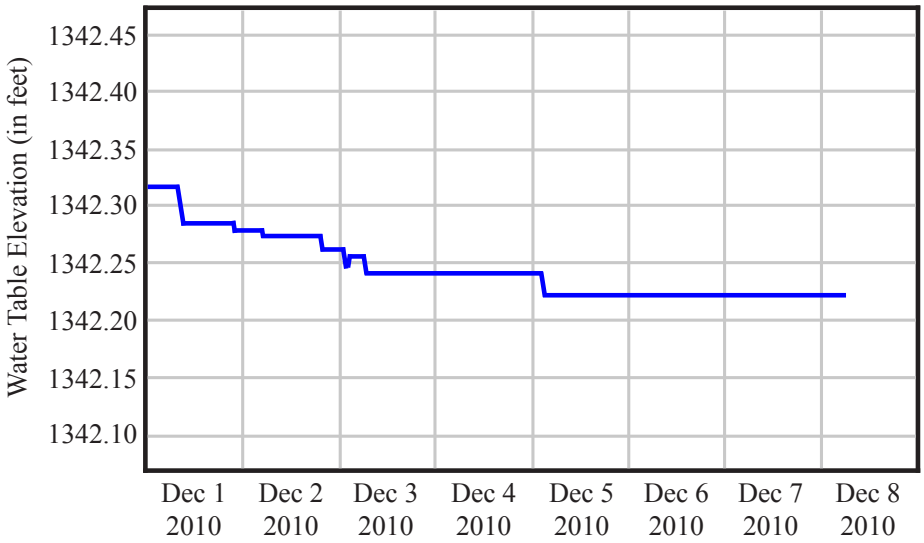
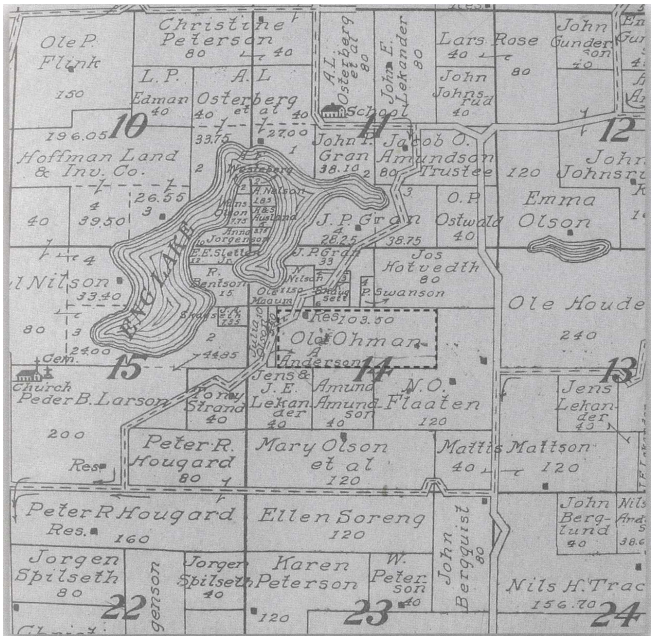


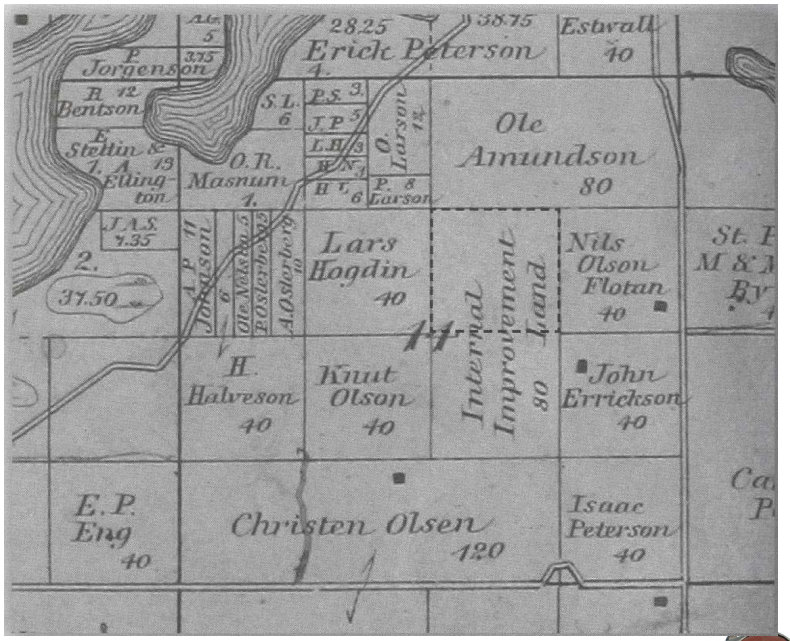
Plate 18: A geologic map of Minnesota shows the Animikie Group rocks, the likely source of the Kensington Rune Stone, located east and northeast of Kensington (black dot). Geologic map by the Minnesota Geological Survey, 1997, modified from Morey, G. B., compiler, 1996.

Current Water Table Level

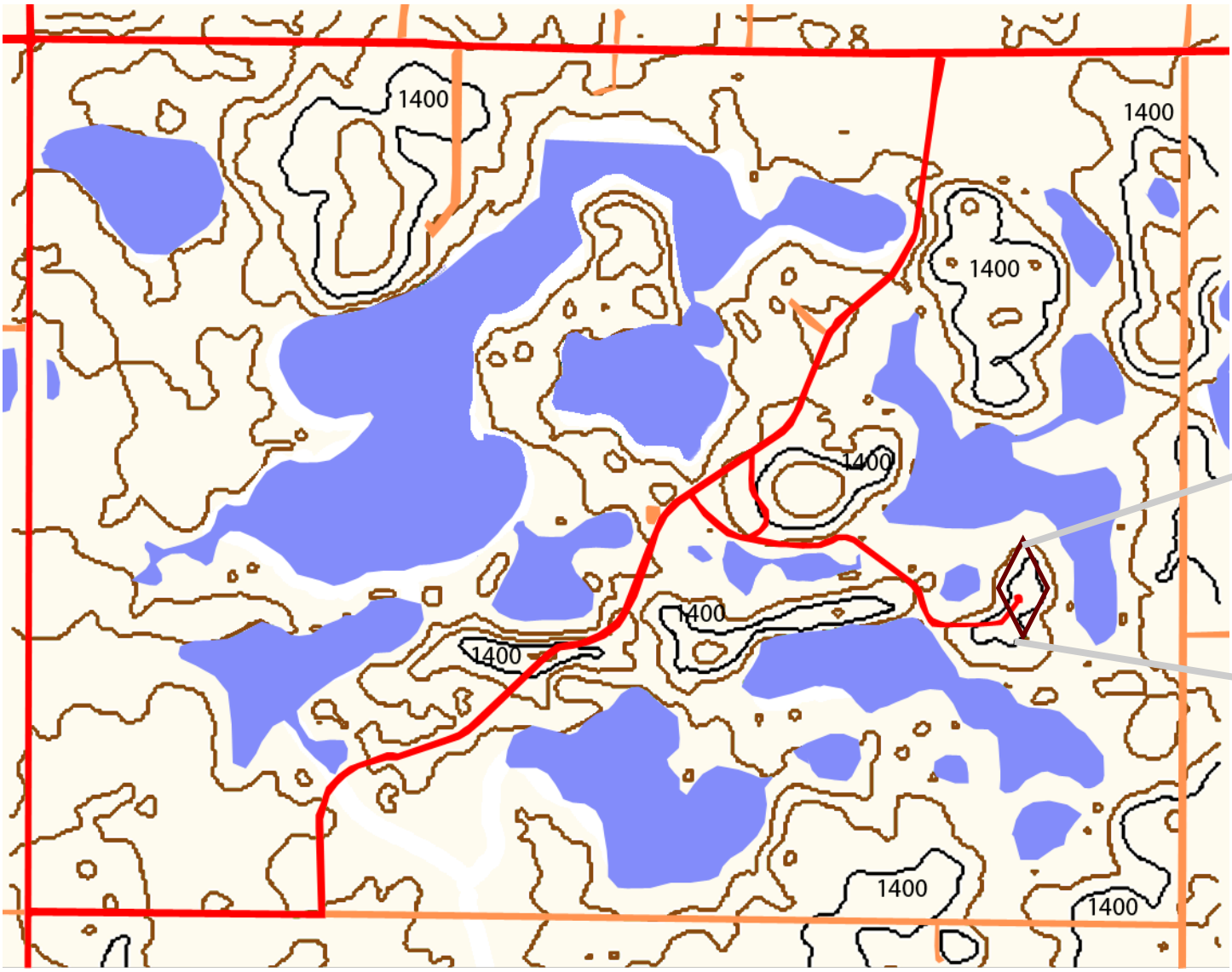


SITE ANALYSIS

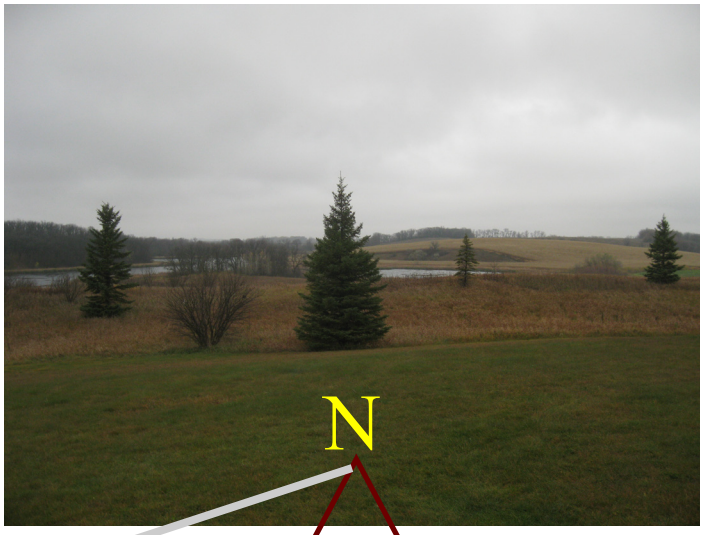




SITE ANALYSIS



SITE ANALYSIS



N

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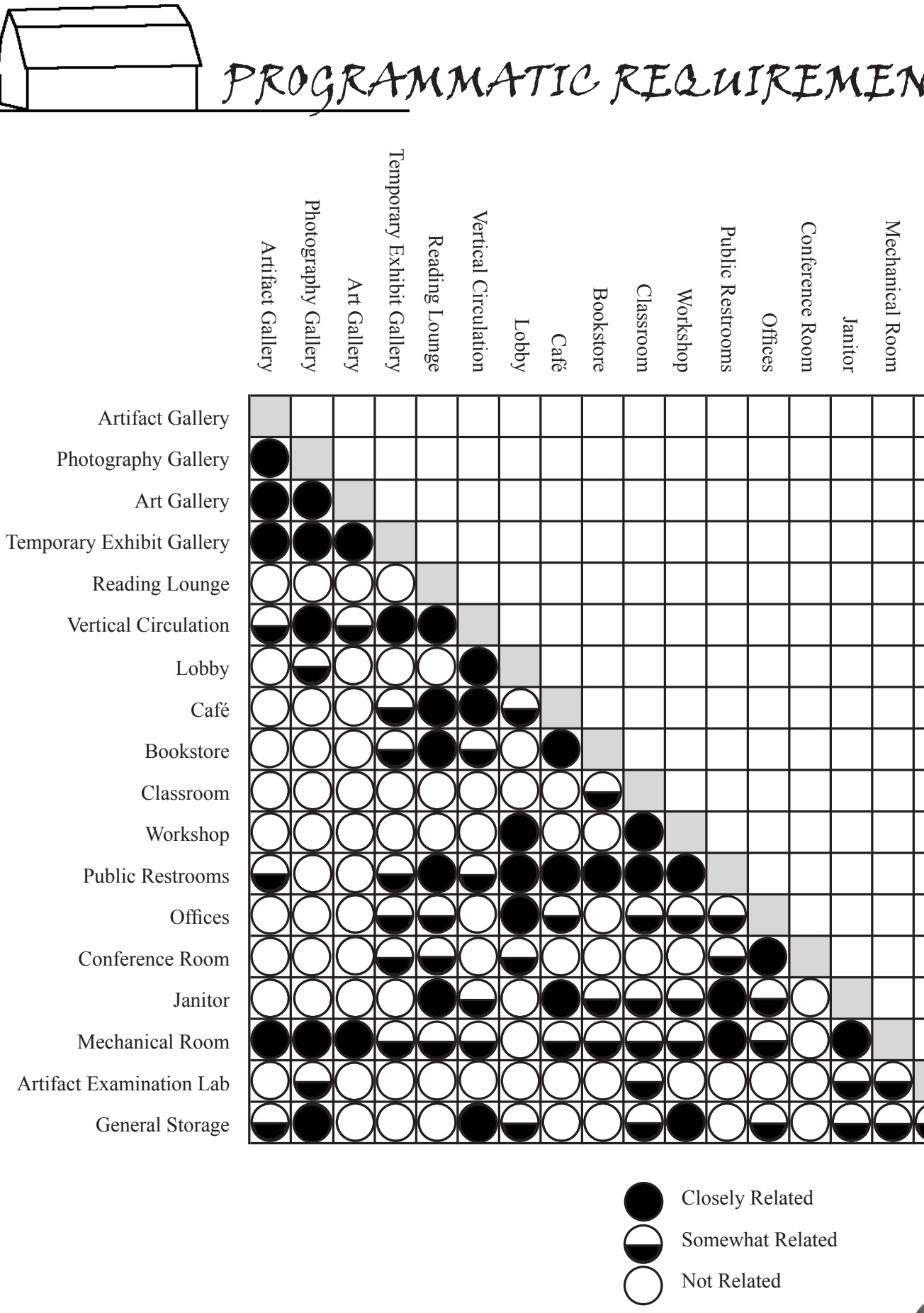
S

PROGRAMMATIC REQUIREMENTS

Main Galleries	**6,800 sq ft**
Artifact Gallery	2,500 sq ft
Photography Gallery	2,800 sq ft
Art Gallery	1,500 sq ft
Temporary Exhibit Gallery	1,000 sq ft
Public Services	**5,000 sq ft**
Lobby	1,100 sq ft
Café	800 sq ft
Reading Lounge	500 sq ft
Bookstore	900 sq ft
Classroom	400 sq ft
Workshop	800 sq ft
Public Restrooms	500 sq ft
Staff Services	**3,700 sq ft**
Offices	1,700 sq ft
Conference Room	700 sq ft
Janitor	100 sq ft
Mechanical Room	500 sq ft
Artifact Examination Lab	700 sq ft
Miscellaneous	**5,800 sq ft**
Vertical Circulation	2,200 sq ft
General Storage	800 sq ft
Circulation	2,800 sq ft
Parking	**57 spaces**
Total	**21,300 sq ft**

PROGRAMMATIC REQUIREMENTS



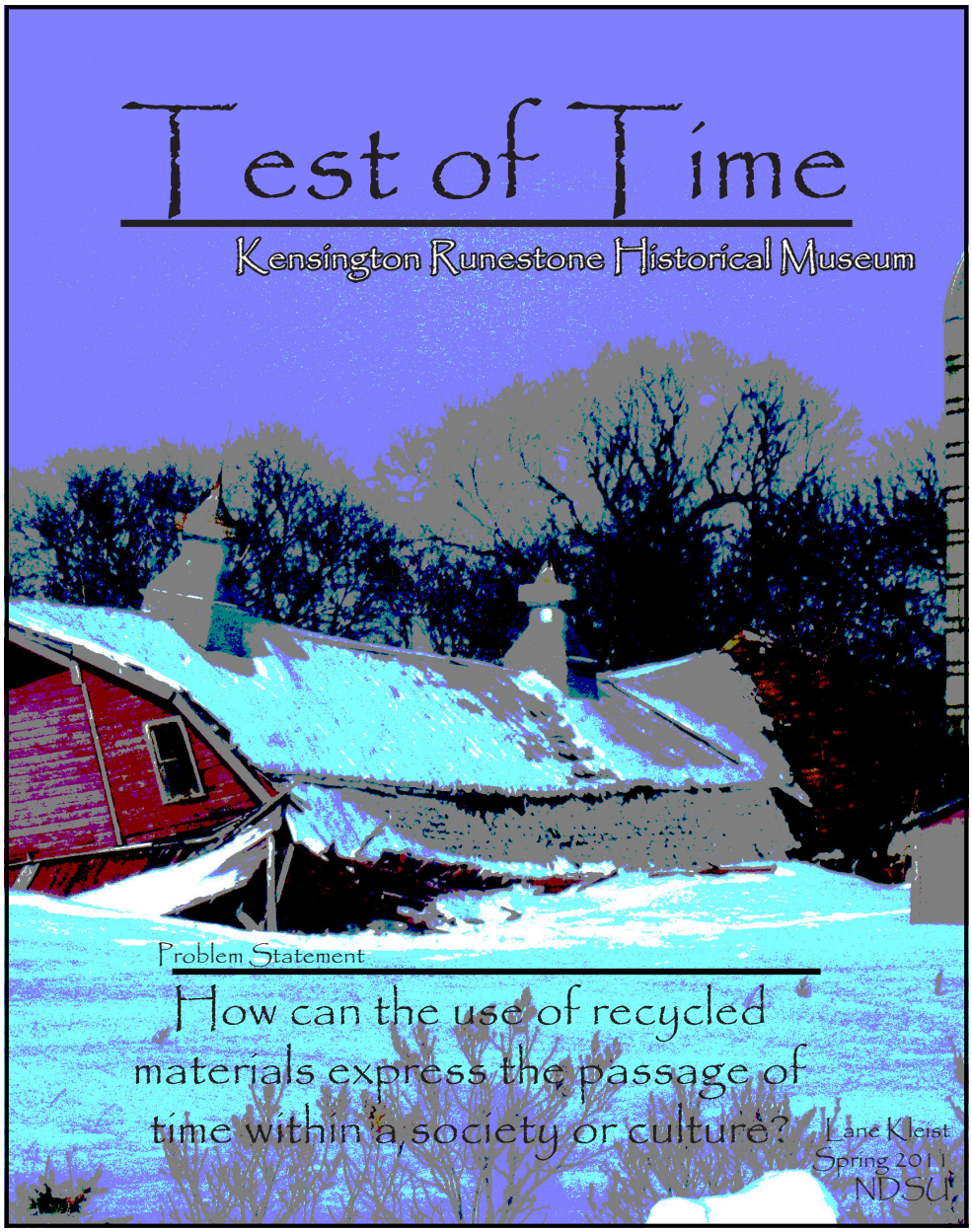
THE PROCESS





Test of Time

Kensington Runestone Historical Museum



Problem Statement

How can the use of recycled materials express the passage of time within a society or culture?

Lane Kleist
Spring 2011
NDSU





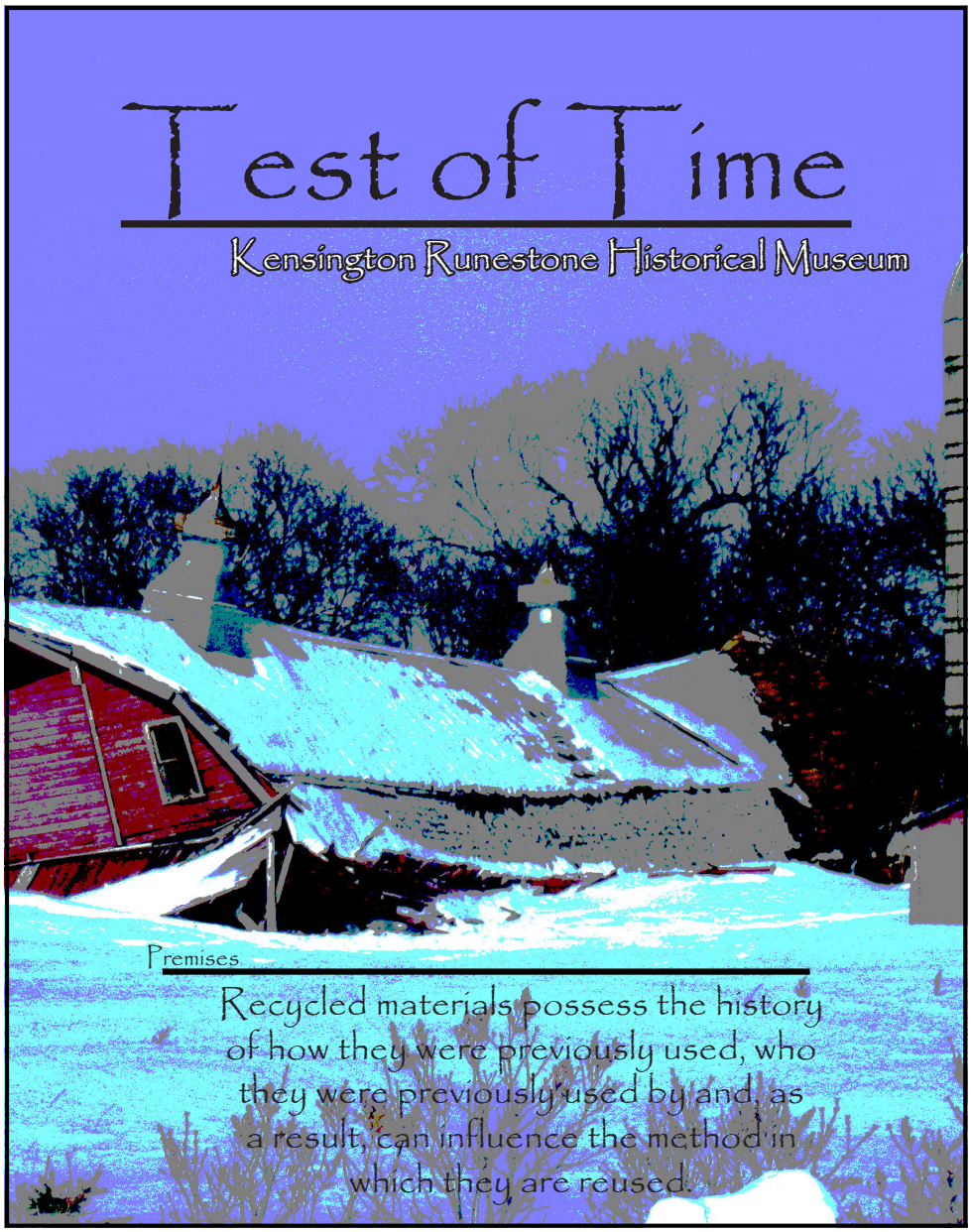







Test of Time

Kensington Runestone Historical Museum



Premises

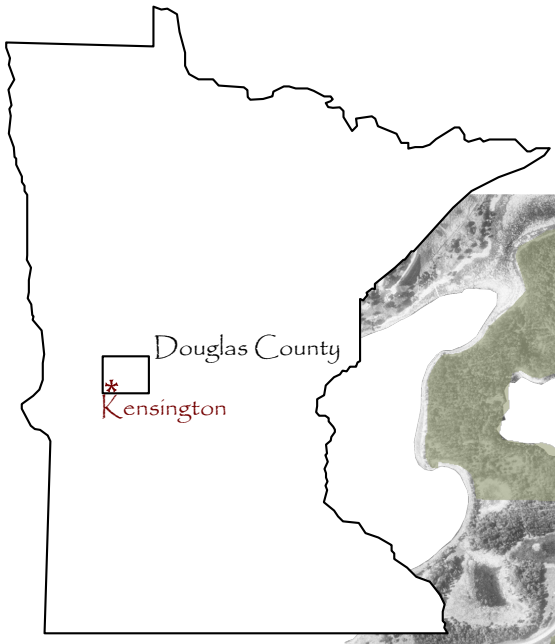
Recycled materials possess the history of how they were previously used, who they were previously used by and, as a result, can influence the method in which they are reused.





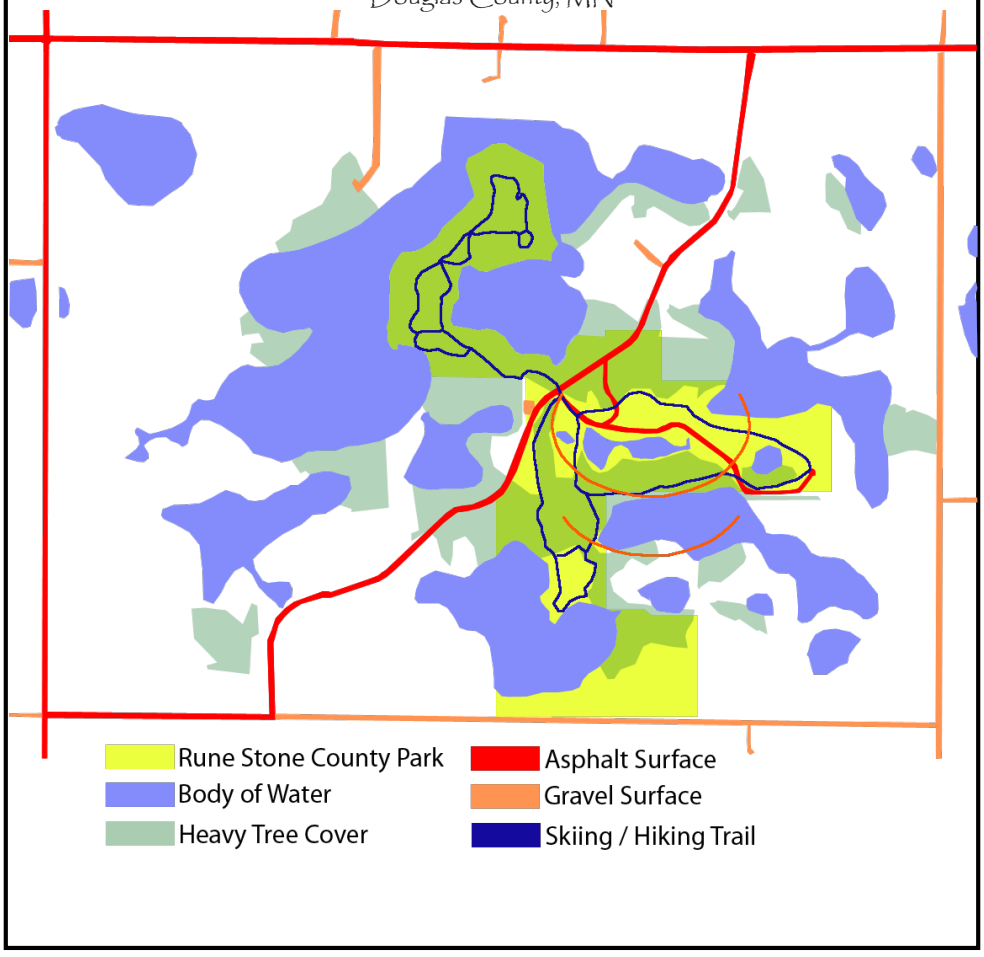

Site

Kensington Runestone County Park
Douglas County, MN



Site

Kensington Runestone County Park
Douglas County, MN



Site

Kensington Runestone County Park
Douglas County, MN

September 5, 1898
Olof Ohman and son find stone bearing carvings

February 21, 1899
First translation published

1907
Stone is given to Hjalmar Holland

June 1, 1927
1000 people attend rally in nearby Oscar Lake starting monument campaign

Runestone

The following lines appear on the face of the stone:

8 Gotalanders and 22 Norwegians of this reclaiming journey far to the west of Vinland. We had camp by two shelters one day's journey from this stone. Were we fishing one day. After we came home we found 10 men red from blood and death. Ave Maria. Save from evil.

The following lines appear on the edge of the stone:

There are 10 men by the sea to look after our ships fourteen days journey from this island. Year 1362.

Site

Kensington Runestone County Park
Douglas County, MN

1973

Portion of Ohman farm purchased by Douglas County

1958

Stone is sold to Committee of Alexandria People

1983

Douglas County purchases the remainder of Ohman farm total of 170 acres

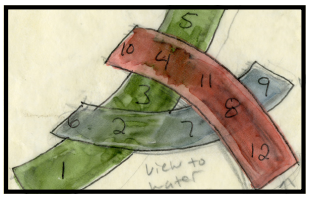
Site

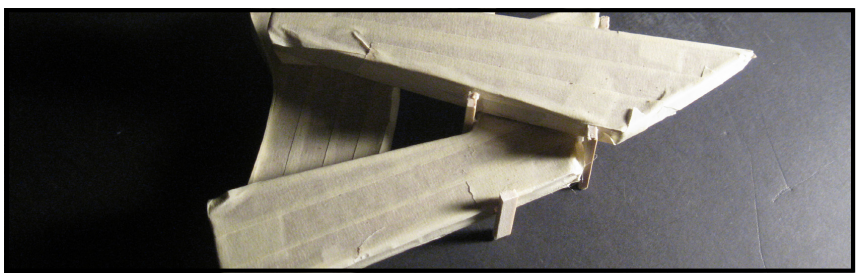
Kensington Runestone Park Foundation is currently working on removing structures that were not originally on the Ohman farm.

Site

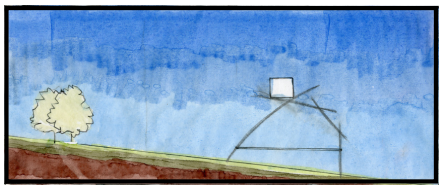
An artist's rendition of the Vikings carving the stone.

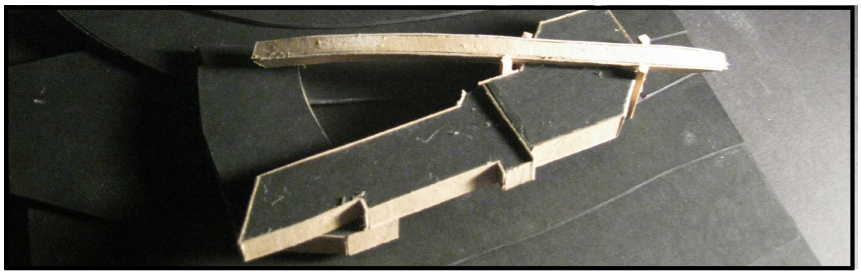
Process





Process





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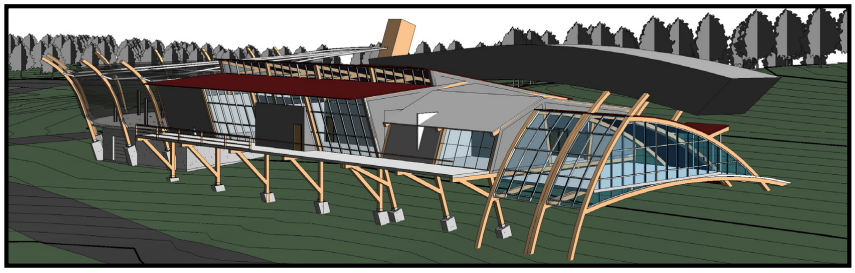

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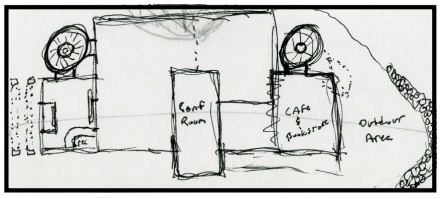

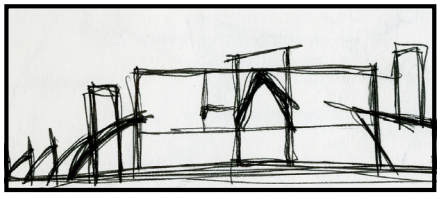

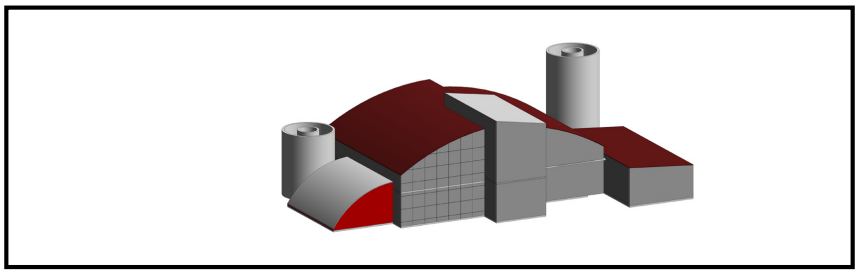

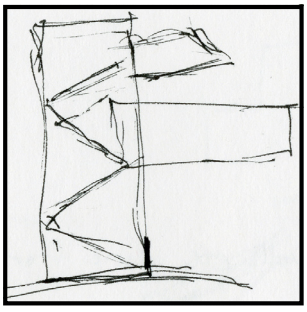

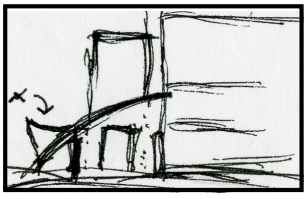

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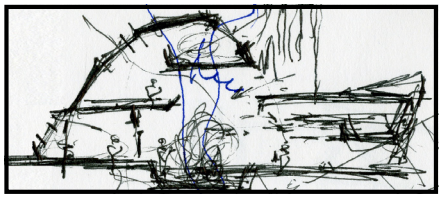
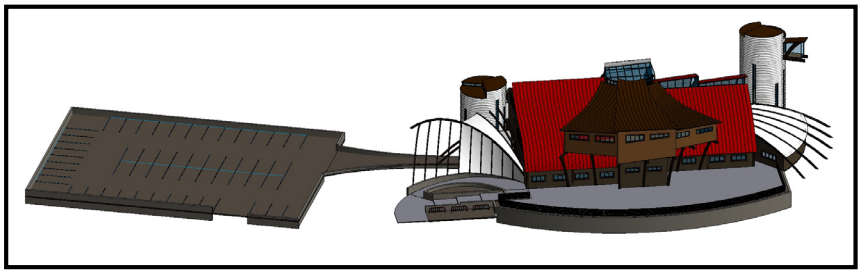


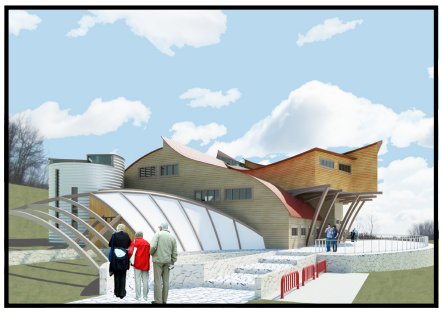


Materials

Flooring composed of broken-up concrete and mortar.

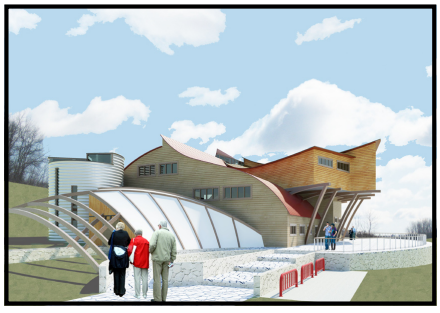
Materials

Stone walls composed of stone commonly found in piles on farmsteads after removing them from fields.

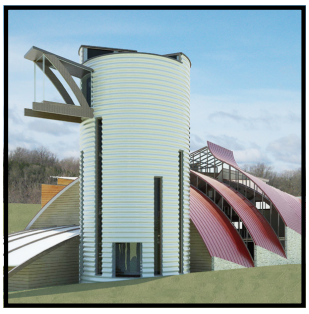


Materials

Wood salvaged from local barns which would otherwise be torn down and disposed of.

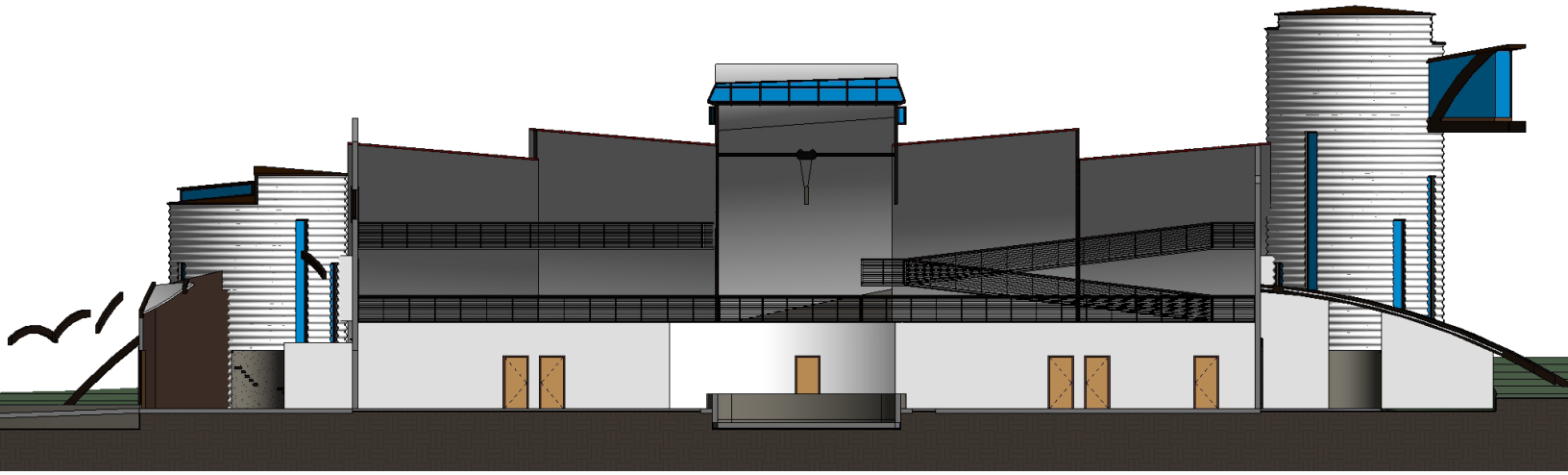


Materials



Reclaimed corrugated metal used as permanent concrete forms for vertical circulation spaces.

Design



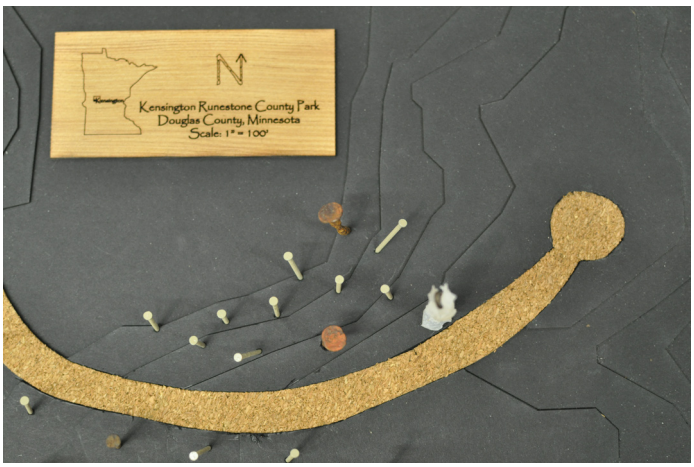
Barn

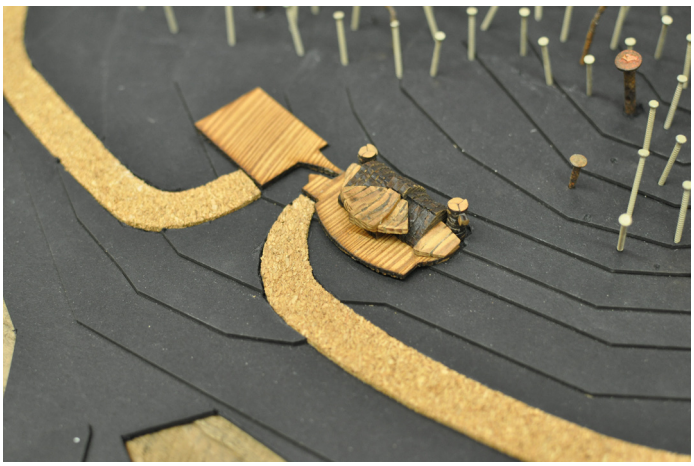

Test of Time


Test of Time


Bakr Aly Ahmed
Software used:
Revit
Adobe Creative Suite

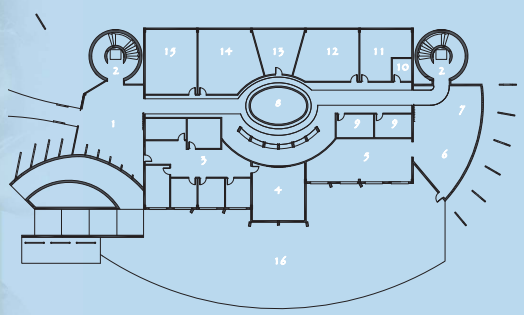

N
Kensington Runestone County Park
Douglas County, Minnesota
Scale: 1" = 100'


N
Kensington Runestone County Park
Douglas County, Minnesota
Scale: 1" = 100'



Test of Time

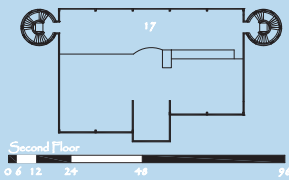
Kensington Runestone Historical Museum



1. Lobby
2. Stairs / Elevator
3. Administration
4. Conference
5. Bookstore
6. Reading Lounge
7. Cafe
8. Fountain
9. Restrooms
10. Janitor
11. Mechanical
12. Artifact Exam
13. Classroom
14. Workshop
15. Storage
16. Outdoor Gathering Space

First Floor

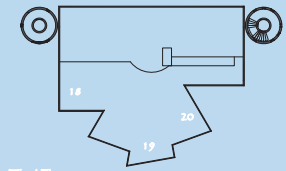
0 6 12 24 48 96



17. Photography Gallery

Second Floor

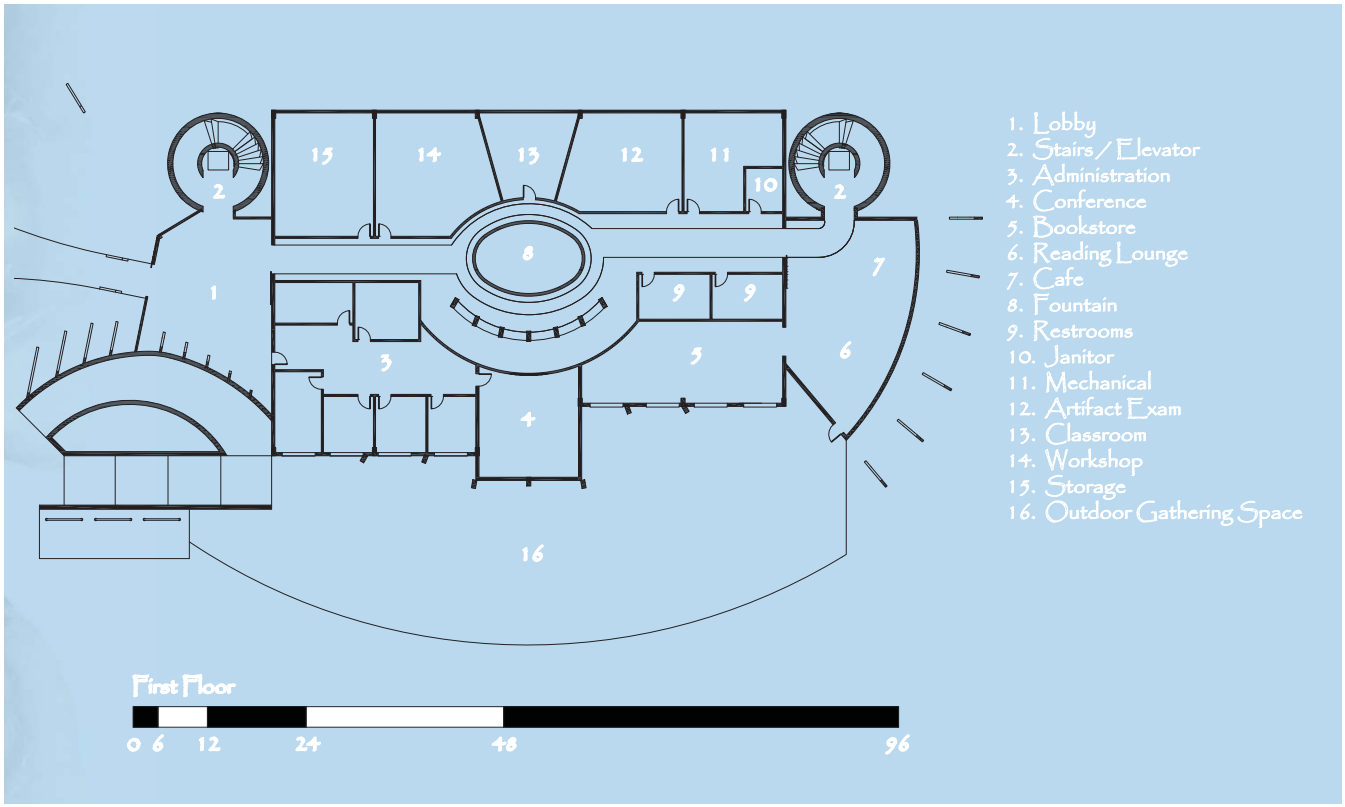
0 6 12 24 48 96

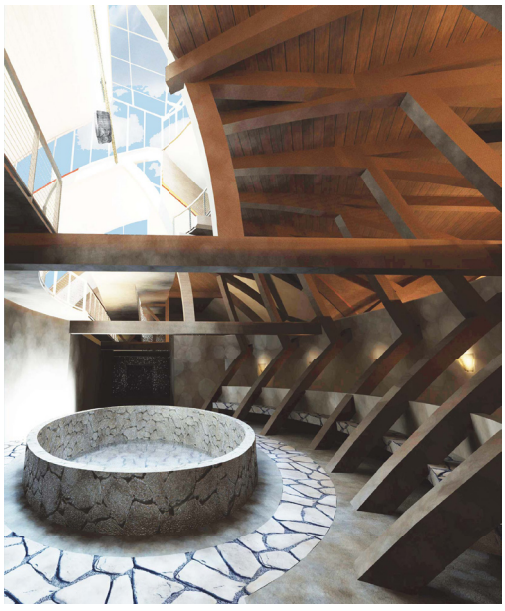


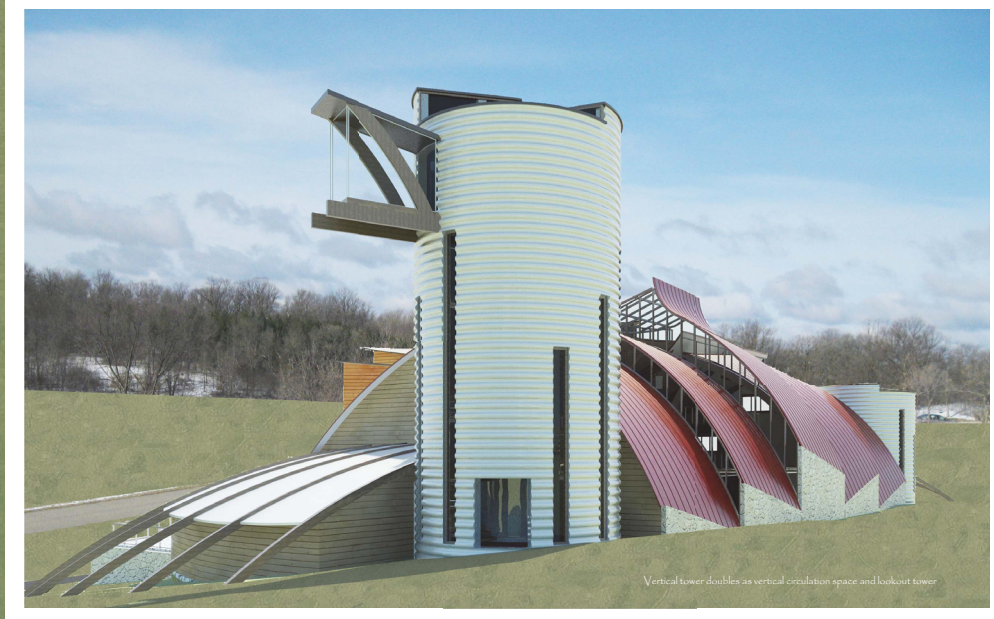
18. Artifact Gallery
19. Art Gallery
20. Temporary Exhibit

Third Floor

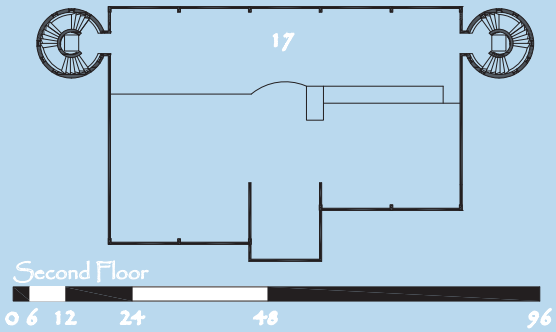
0 6 12 24 48 96



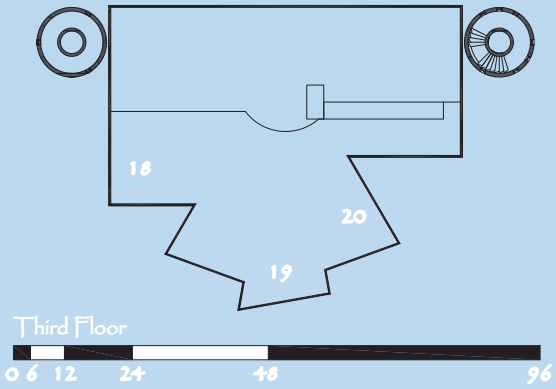




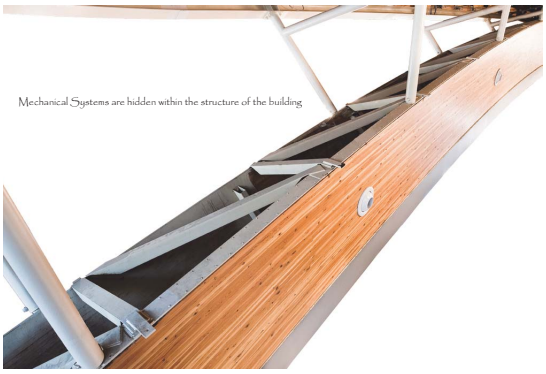
Vertical tower doubles as vertical circulation space and lookout tower

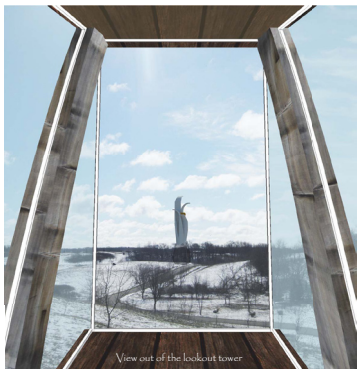


17. Photography Gallery



18. Artifact Gallery
19. Art Gallery
20. Temporary Exhibit

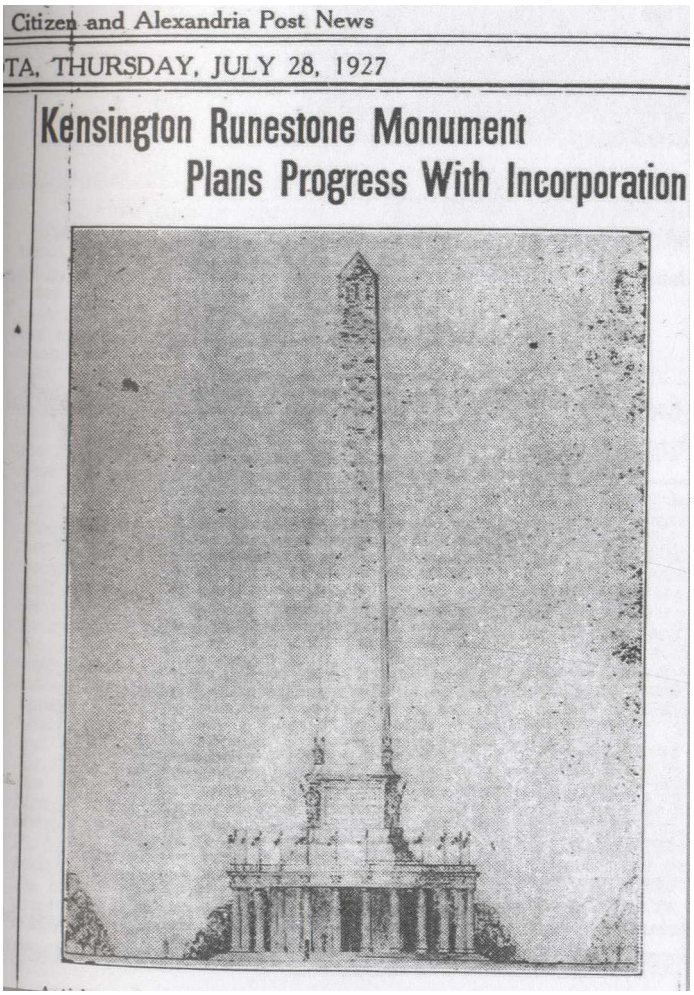

Mechanical Systems are hidden within the structure of the building


View out of the lookout tower


View looking up through the Ohman Monument

Lane Kleist
Thesis Advisor: Bakr Aly Ahmed
Software used:
-Revit
-Adobe Creative Suite

PROGRAM APPENDIX



Citizen and Alexandria Post News

TA, THURSDAY, JULY 28, 1927

Kensington Runestone Monument Plans Progress With Incorporation

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Image Reference

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http://maps.google.com/

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Willmar, MN

“NDSU has not only prepared me for a career in Architecture, but has given me the tools to continuously better my personal life.”