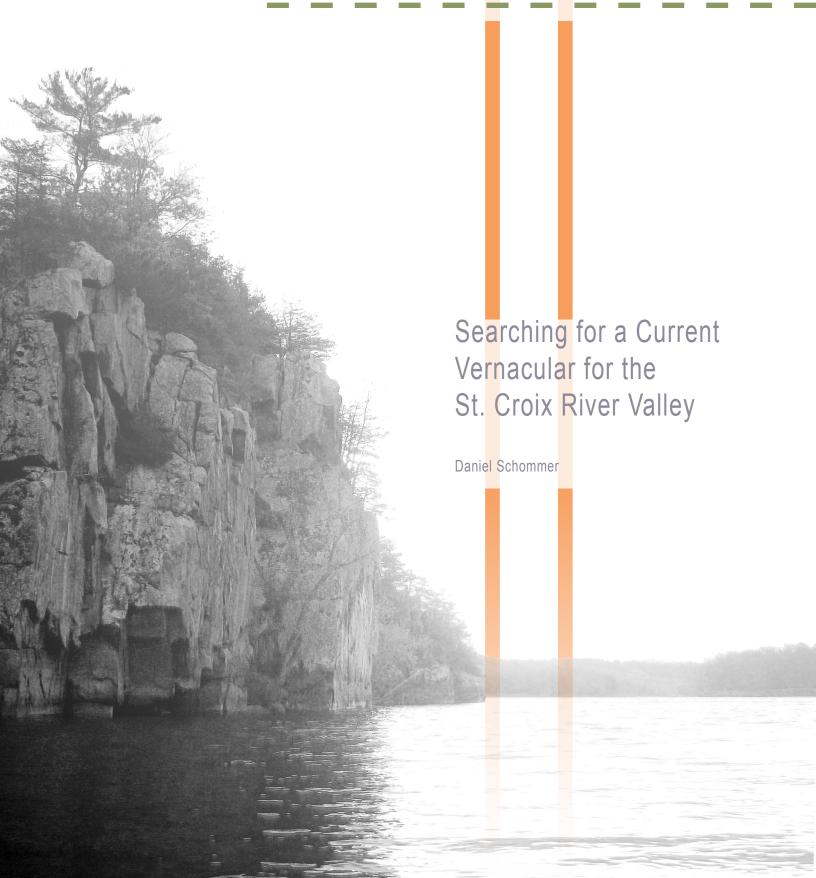
Place of Origin



Place of Origin
Searching for a Current Vernacular for the St. Croix River Valley

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

By

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

Primary Thesis Advisor

leth. Bambour 5/4/12 Thesis Committee Chair

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Dedication

For Grandma Natalie,

Thank you for teaching pride in myself and where I come from.

Abstract

Cultures entrench themselves in the environment. Their histories are defined by it and their people are at one with it. Current architecture at times is so universally tuned out of unique regional qualities that it begs the question about regionalism and its place today. Understanding a region is best done on its own specific terms, which is why it's paramount, in all aspects of design from development to construction, to integrate region into a built work. This thesis attempts to incorporate present-day design construction and insight into an interpretation center based on it's natural and historically rich setting.

Key Words- Context, Culture, Contemporary, Globalization, History, Interpretive Center, Nature, Regionalism, St. Croix River, Vernacular





Problem Statement

How do natural and cultural context inform and coexist within contemporary design?

Project Typology

Visitor's and Interpretation Center

Claim

Present-day architecture grown out of its environment can embody and respect the traditions, identity, and spirit of its place.

Premises

Universalization of production, knowledge, construction, and technology has changed the way we design and build our structures and buildings.

Great designers have an opportunity as well as an obligation to compliment and emphasize a given area while paying respect to its past.

True inspiration comes from every person with a story to tell, every trail with something to discover, and every idea that is worth trying.

Theoretical Premise/Unifying Idea

For humans to be connected to one another and to the areas they settle in, requires a firm understanding of the place and time they are joined to. Just as important is that which we come from; our past. The world has been shrinking quickly ever since the beginning of the 20th century. It has become more and more difficult to resist globalized standards and for a building to boldly stand out in conjunction with the character of its region and history.

Project Justification

In order to arrange a more seamless union with a region, close care and attention must be paid to its fragile environment and it's honored past. This thesis attempts to address the need for a visitor's center along the St. Croix River near Stillwater, MN. The river region is bare of any kind of significant built realization of importance with it's rich history and a beautiful ecosystem. A contemporary building that is intimately tied in with its context poses a unique challenge to a place without a central built hub of interest for a major regional feature. This building will act as a beacon for the area, and as a center for cultural awareness for preservation, education, and natural awe.





Narrative

Cultures entrench themselves in the environment. Their histories are defined by it and their people are at one with it. Current architecture at times is so universally tuned out of unique regional qualities that it begs the question about regionalism and its place today. Understanding a region is best done on its own specific terms, which is why it's paramount, in all aspects of design from development to construction, to integrate region into a built work. This thesis attempts to incorporate present-day design construction and insight into an interpretation center based on it's natural and historically rich setting.

It's funny how one can take a certain place for granted. It wasn't until I moved to college that I found a new kind of appreciation for my home, my own personal "place" of origin. I have fond memories of canoe trips with friends, train rides with grandparents, and snow skiing fast down a slope all within the beautiful region of the St. Croix River Valley on the Minnesota-Wisconsin border.

Ask anyone and they will tell you that the world is shrinking. We are more connected and aware of the people around us, close by or far away. We are in danger of losing our sense of place in this new global environment. To resolve this cultural contamination, we must resist this "new world order" way of thinking and return to a more grassroots vision of design inspired not by popular culture, but rather by surrounding people and places, which is symbolic of that lost intimate relationship. Unfortunately, much of the built environment of my home does not reflect the true nature of the region. More often than not, you see the same cookie-cutter house built out of cheap materials shipped hundreds of miles from all directions. These buildings don't celebrate anything; they don't reflect natural beauty; they don't retell aspects of a rich heritage, and they are reminiscent of absolutely nothing significant.

With this thesis, I hope to create an architecture that acts as a cultural beacon for the area. This interpretation center will give a sense of self and heritage to residents in the area while extending a friendly hand to visitors. It will also respect the environment and in turn, educate people about the fragility of the St. Croix River Valley.

User/Client Description

Owner

This building will be owned and managed by the National Park Service through the Department of the Interior in collaboration with the Minnesota Department of Natural Resources.

Public

This building will be for the general public but specifically for visitors and tourists to the St. Croix River Valley. Peak visitation and operations will occur during the summer months. Parking will be on-site off highway 95. The facility will be able to accommodate handicap individuals as well as individuals with any other health needs.

Staff

There will be staff to showcase and supervise the various exhibits as well as maintenance and janitorial personnel to keep the facility running during the day. They will all have their own parking spaces.

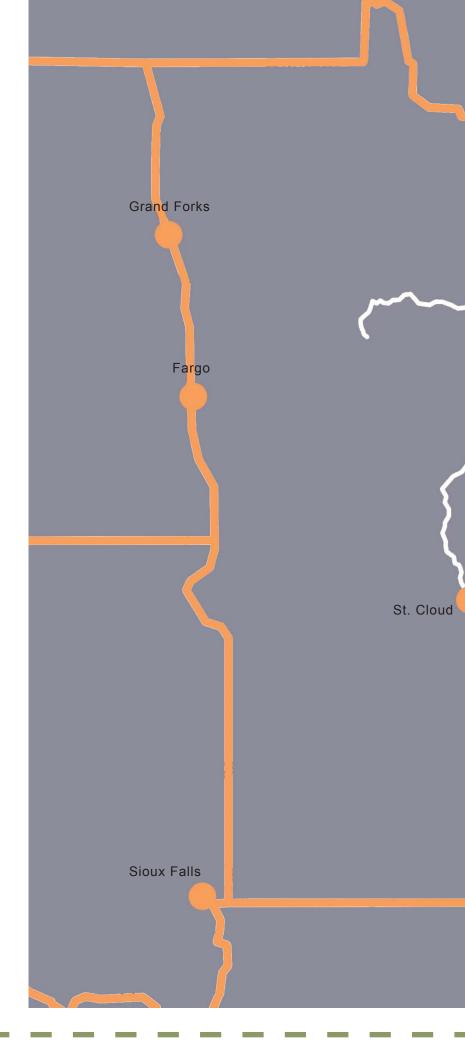
Major Project Elements

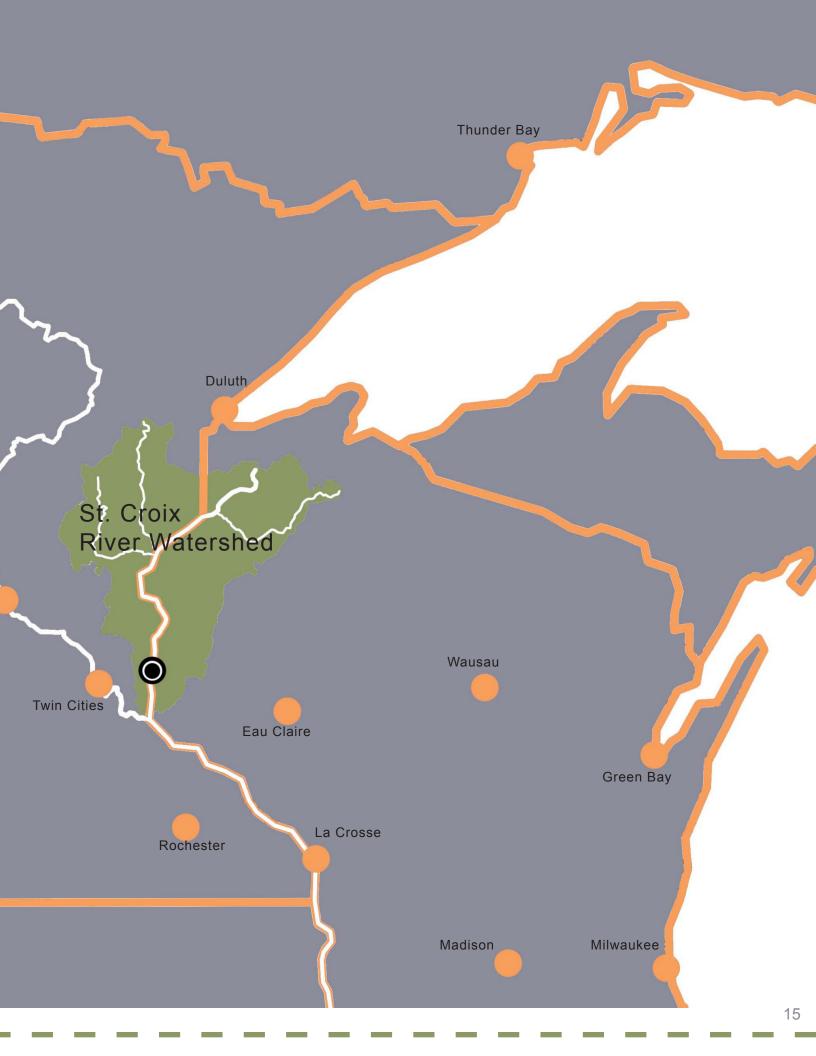
Lookout Tower Observation Space Scenographic Exhibits Display Space Multimedia Programs Auditorium Multipurpose Gathering Patio Access to Trails Access to River Classrooms Offices Maintenance Parking Access to US Highway 95

Site Information

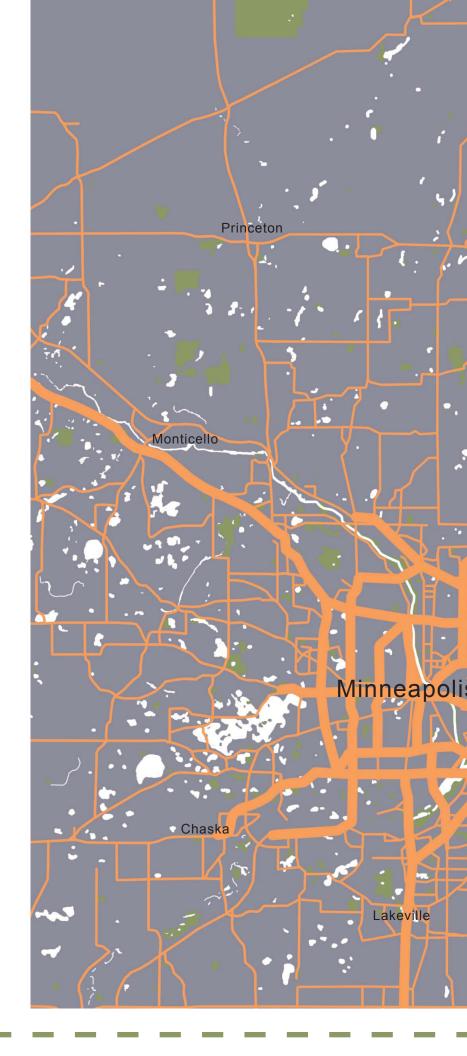
Macro-Region
This northern area of the Mid-

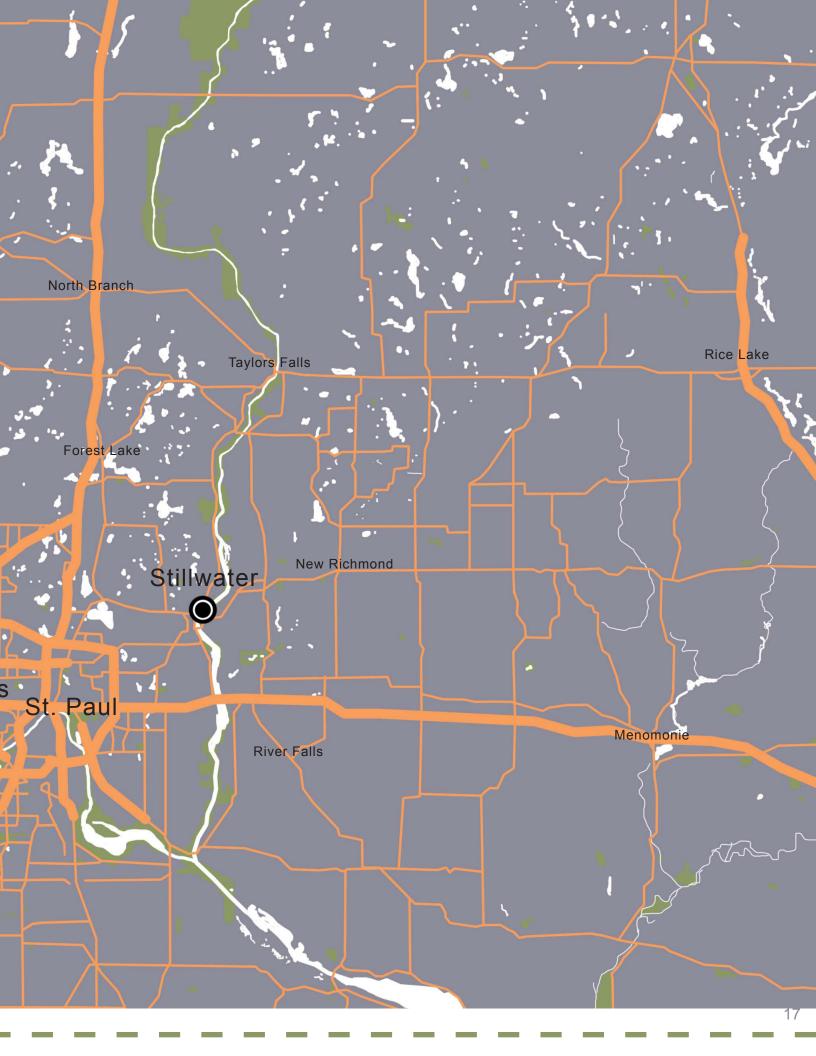
This northern area of the Midwest United States is a confluence of three different landscapes. To the south and west is the prairie; to the north are the coniferous forests, and to the east are the deciduous forests.



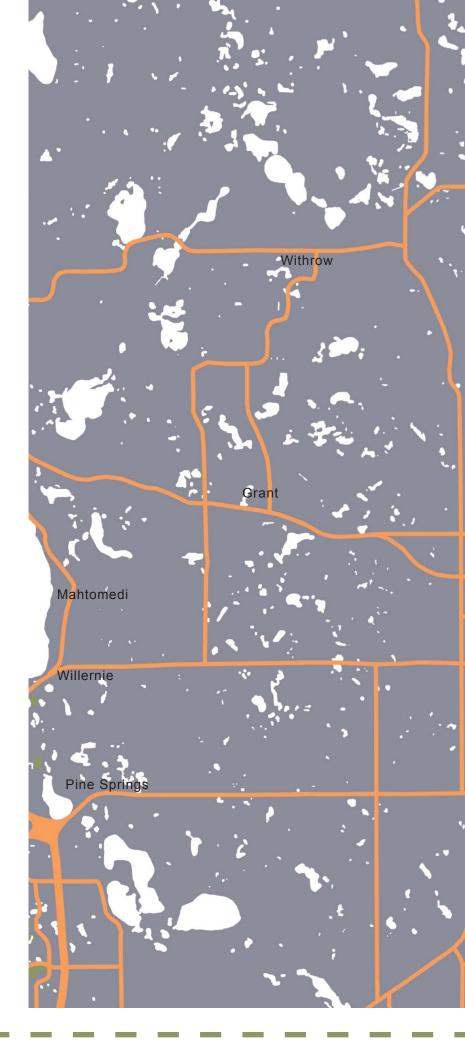


Micro-Region Stillwater, MN, is located just half an hour away from the Twin Cites, Minneapolis and St. Paul. It rests on the Minnesota-Wisconsin border on the St. Croix River, a nationally recognized scenic riverway under the protection of the National Park Service.





Macro-City
Just over 2 miles north of downtown Stillwater lies the historic boom site. It is at this location that the river significantly opens up in size as it makes its way to join up with the Mississippi 23 miles to the south.





Micro-City

The actual site is a long, slender strip of land situated on a cliff alongside Highway 95, a major road that follows the St. Croix. The riverside is surrounded by the recreational hot spot known as the St. Croix Islands. The northwest side is a steep hill rising out of the river valley.





Project Emphasis

The focus of this project will be to provide a hub for cultural and natural interpretation. Architecturally, this building will integrate the beauty of the surrounding area directly into the very fabric of its design. Furthermore, the history and traditions of the people will be channeled into the construction of the facility using local building materials and techniques.

Plan for Proceeding

Research Direction

The research conducted for this thesis will be straightforward and encompass many different parts. It will be comprehensive and relevant, addressing the following areas; the theoretical premise/unifying idea, project typology, historical context, site, and the programmatic requirements.

Design Methodology

I will be following a mixed method, quantitative/qualitative approach for the research for this project. I will also be employing a Concurrent Transformative Strategy, which will yield the best quantitative and qualitative results. The results will constantly by crosschecked and verified with one another. The theoretical premise/unifying idea will act as a guide for this strategy. The integration of the data will occur at several stages in the process of the research following close examination of the premises.

Documenting the Design Process

It is extremely important for others, but also myself, to clearly see the process of this thesis. That's why I will be taking special care to document all of my drawings, pictures, graphs, charts, and diagrams, as well as any sources I have used to generate them. All of this will be collected at the end of the semester prior to giving the CD to the advisor. My thesis will be preserved in the online NDSU Digital Repository to be used by future students.

Work Schedule

	1/13	1/20	1/27	2/3	2/10	2/17	2
Context Analysis							
Spatial Analysis							
Conceptual Analysis							
ECS Passive Analysis							
ECS Active Analysis							
Floor Plan Development							
Section Development							
Structural Development							
Context Redevelopment							
Envelope Design							
Midterm Reviews							
Materials Development							
Structural Redevelopment							
Project Revisions							
Presentation Layout							
Plotting and Model Building							
Exhibits Installed on the 5th Floor							
Thesis Exhibit							
Preparation for the Presentations							
Final Thesis Reviews							
Project Documentation							
CD Due to Thesis Advisers							
Final Thesis Document Due							
Commencement							

10.4	0.10	0.10	0//6	0.100	0.10.6	4.10	4/46	4.40.0	4 /0 =	- / 4	= / / /
/24	3/2	3/9	3/16	3/23	3/30	4/6	4/13	4/20	4/27	5/4	5/11



The Program



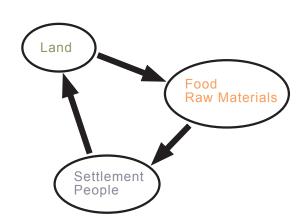
Research Results

For the research segment of this thesis, I have come to several conclusions about what are relevant research criteria. The three premises have been researched with emphasis in culture, nature, globalization, anti-globalization, sociology, contemporary architecture, materialism, historicism, and regionalism. All these fields have contributed in a comprehensive manner to fully realize my theoretical premise/unifying idea.

With architecture, context of our immediate surroundings has in many ways been put on the back burner for an abundant amount of the design solutions we see today. Much is universal. The markers, reference points, and boundaries that once existed have become blurred. Everyday interactions in a region may not be fully understood by outsiders or strangers; however, for the experience of the everyday person who lives there, these things give a place its meaning and relevance. In order to have a clear perspective on regional context, it is incredibly important to understand how the world has deviated.

Up until recently in human history, all architecture was regional as was commerce, politics, and industry among other things. Much of our stock of old buildings conveys a simplicity and directness of form that resonates with the sense of having grown out of the landscape. This is due to the way local materials were used and the need to solve shelter and security issues as easily as possible. The inherent beauty and workability of vernacular forms evolved from necessity, solving immediate basic problems of everyday life.

The tasks of creating shelter for oneself as well as making a living from the land lead to initial town building; hence, the sense of place, on a cultural scale, was formed. A cultural group propels itself toward stability as people feel invested in the land because survival and well-being depend on it. It is a simple relationship that many times can go overlooked or be unnecessarily complicated. Michael Hough(1990) describes it in his book, *Out* of Place. The land produces the key ingredient of food and raw materials; as architects, we of course focus on the raw materials. These supplies from the land supports the people, but also importantly, the settlements. Finally, the by-products of the people and their settlements are returned to the land in two forms: material "waste" and energy "work" (Hough, 1990). Agai<mark>n,</mark> importa<mark>nt</mark> to note is: that this cycle once existed based on necessity; that is to say, it was bound and restricted by the limitations of technology and tradition. The result of this kind of relationship gave birth to a precise regionalism that had an integral natural character. This was molded into a cultural landscape by human endeavors over several generations.



It is the influence of different culture that helps to disassociate similar landscapes or forms. For example, one might consider the British Isles; a similar landscape with fairly different people generates these kinds of diverse regions. This also works in the opposite direction such as in the Upper Midwest United States. Here, we see a collection of very similar decedents of Scandinavian and German immigrants who spread out in the Minnesota-Wisconsin deciduous forests and in the plains of the Dakotas; similar people with different landscapes. These combinations of nature and culture generate what we have come to know as "place".

PLACELESS MEGAPOLIS

HIGH RISE FREEWAY

Industrial Capitalism Meandering Culture

Whatever you call it, globalization, universalization, internationalism, it is here to stay. Although much has lead up to it, this shared collective is really the result of two opposing forces: The first force is the expansion of industrial capitalism and the acquisition of worldwide power, and the second force is the existence of operative metaculture, the interaction of culture meandering, and spreading throughout the world (Mosquera, 2001). Along with these forces, the high rise and the freeway have acted as catalysts for the megapolitan development we see today. These factors draw a wave of people into the urban centers, emptying the countryside. The perfect example of this is, of course, today's western culture and its absorption of other cultures for its own use, which is an endless and colossal process of consolidation from the peripheries' to the centers. The world slowly continues to move toward a kind of global community or "new world order" which has some serious implications. good and bad.

Nobody will argue that we are advancing mankind due to universalization; however, the cost is a subtle natural and cultural destruction due to contaminations and contradictions (in a way, it is this overlapping that may have helped caused postmodernism). It can be seen especially in emerging places onto the international scene due to recent technology breakthroughs or acquisitions. Consider, for example, a small distinct community in a remote local. How does it take part in universalization while also remaining rooted to the sources of its past? In many ways, globalization has become a tool for de-colonization, creating physical and mental fractures. Mosquera(2001), in his cultural dilemma article, suggests that it masks conflictions of interests, deceptively promoting compliance to subordination and creating a false sense that all people are adding to a "global pie" (Mosquera, 2001).

Kenneth Frampton(1983) best describes this question of place in his ground-breaking essay, "Towards a Critical Regionalism". Although the term "Critical Regionalism" was actually first coined by Alexander Tzonis and Liliane Lefaivre, it was Frampton's use of it in this paper that really launched the idea into the architecture community. Frampton states(1983):

Architecture can only be sustained today as a critical practice if it assumes an arrière-garde position, that is to say one which distances itself equally from the enlightenment myth of progress and from a reactionary, unrealistic impulse to return to the architectonic forms of the pre-industrial past.

A critical arrière-garde has to remove itself from both the optimization of advanced technology and the ever present tendency to regress into nostalgic historicism or the glibly decorative. —only [this] has the capacity to cultivate a resistant identity-giving culture while at the same time having discreet recourse to universal technique (p.20).

Technology, for example, in many ways has helped us overcome the boundaries caused by nature. Structure, mechanics, communications, artificial lighting have detached our grasp on our natural setting. Regional identity, in its purest form, is based on these technological limitations as well as a finite selection of options to effect environmental changes and a person's ability to move effortlessly from one spot to another. Modern building is now conditioned uniformly by optimized technology, which limits our ability as designers to create significant form. Any effort to get around this usually results in minor manipulation of predetermined elements and units such as lumber, shingles, and tile or sometimes an insincere mask required for marketing and social control.

The continued spread of urban centers since the industrial revolution has spurred many changes as to the way we view culture and nature around us. Our cites are no longer as different and varied as they once were. It is often times seen as an issue with seeking perfection; "utopian ideals work directly against natural and cultural diversity" (Hough, 1990 p.2). One modern city is many times indistinguishable from another hundreds or even thousands of miles away.

By makeing a persistent impact on us, the city in our everyday lives is causing problems with our perception of where we are.

Awkwardly at times is how this has affected our architecture. It is now generally accepted and in some cases enforced that every work of architecture can happen everywhere. This is in direct violation of the old postmodern dogma that a unique, authentic relationship with the context of a place is needed for architecture. The buildings of the Las Vegas strip promote this decline. The enclave of autonomous worlds, in this instance, is detached from its place due to a fake historicized décor that covers up the harsh realities of a universal system; it is a dishonest representation of authenticity, identity, and meaning. These places are popping up all over the globe, defiant of their surrounding context. Another drag on regional vernacular is the completely blank and neutral buildings that have gained popularity since the 1990s. With this kind of architecture, context is neither affirmed nor used as inspiration. It is instead derived from the internal program alone. It relies on a high tech slant predicated upon production and uniformity. This is only further reinforced by an inscrutable handling of an empty medium exterior that relays nothing of what happens on the inside. With architecture today, polarized between both these examples, we witness a virtual debacle of the value of time and place. This tragedy is something, unfortunately, that many tourists generally like to see.

Tourism holds one of the great contradictions of the world. As viewed on the surface, tourism is a search for what is distinctive and different. Traveling to the unfamiliar regions of the world seems like a factor that maintains distinctiveness, as if tourism somehow adds to diversity and the knowledge thereof. However, the very act of tourism is a danger to our sense of place according to Hans Ibelings(2002).

If the perception of globalization, homogenization and the erosion of the sense of place is nourished by anything, it is surely by the experiences of the hordes of ardent travelers who are constantly crisscrossing the globe and in more and more places encountering the same (p.135).

In Ibelings book, *Supermodernism*, he explains the causes behind the kind of architectural change we have seen in the past few decades. He claims tourism, at a point, can reach an unintended mass that provokes a disorientation effect on our sense of place (Ibelings, 2002). Tourism is built on a specific and unique aspect of places. The architecture of these destinations act as identity confirming symbols and definers of place. This sense erodes after a certain tourism magnitude has been reached. At this point, places become interchangeable, gathering an uninspiring collection of "same old, same old".

This resistant architecture Frampton(1983) once talked about 30 years ago can be applied with great success to today's architecture that has placed greater importance to the visual, spatial, and tactile sensations we love to encounter.

The moral and strict implications of postmodernism have paved the road ahead to a realistic contemporary architecture geared toward experiences. This way of designing has a strong tendency to accept prevailing conditions as inescapable facts, thus making for a straightforward treatment of surrounding context and criteria. It is a search for ways to complement our normal scenic experience by retracing our tactile range of perceptions.

Please note that it is worthwhile to slow down in our fast life. The world will continue to change and evolve faster than ever, but until we stop and take notice of where we are at this specific moment, we are in danger of losing a sense of place. I've always been amazed at the built environments ability to anchor us in our surroundings while also daring us to dream further. The diversity of our planet is what makes humanity an adventure. Continuing to design architecture in a matter that ignores rich context or blends context could one day cause us to feel like aliens on our own planet. A more rewarding architecture can be achieved by ending diversity harmonization and instead adapting globalized techniques that celebrate distinct natural and cultural qualities of "place."

Research Summary

I made the decision to conduct research within the strict confines of my theoretical premise/ unifying idea. I had several hypotheses as to what I would stumble across but every argument was complimented with the next, and it made for a clear understanding and tolerance for points brought up. Within my research, I also discovered many new things I hadn't thought through. Every day I was digging deeper and deeper to round out this theoretical premise/unifying idea as one source gave way to another. It was an ongoing slew of considerations and relevant views.

Apparent at first was the knowledge of the, "vernacular that was." Architecture had been done a certain way for a long time due to many kinds of social, natural, and technological limitations. I enjoyed the history of how these stable forms in our built environment had been handled prior to the many innovations provided in recent times. This led me into the kind of strategies, good and bad, that many designers use or ignore. I was especially intrigued by some of the writing by Dale Mulfinger, and I look forward to following his lead.

Although I wasn't necessarily looking for it, I was glad to have stumbled upon tourism during my research on globalization. It suggests that my typology of a visitors/interpretive center provides for an interesting paradox. I can conclude that my architecture for this project must be a sensitive addition to the regional context. It will be a great test for this kind of theoretical exploration.

All this set aside, however, most of my time was spent in the realm of globalization. I wasn't fully aware of the damaging effects on our architecture an international environment can pose. The threats of reduced diversification in creative expression are somewhat of a concealed secret in pop culture. The shift from the edge to the center is straining our sense of place. This is, of course, not to say that nothing good comes from globalization, quite the opposite. It is a platform for the unified advancement of humanity. That being said, I was offered many examples and cases in which poor architecture dominated and destroyed any kind connection with what happed outside its walls, roofs, and floors.

Overall, the paper Kenneth Frampton(1983) wrote 30 years ago really became my base for everything to follow. My continued study of my homes architectural vernacular will follow many of Frampton's ideas. It's true that this article holds significant weight over my project. However, I would take it a step further by asking if the global community can advance as one under the policy of universalization in conjunction with protecting and preserving, in architecture, the artistic sovereignty of diverse regions, large and small, based on natural and cultural context

Topological Research

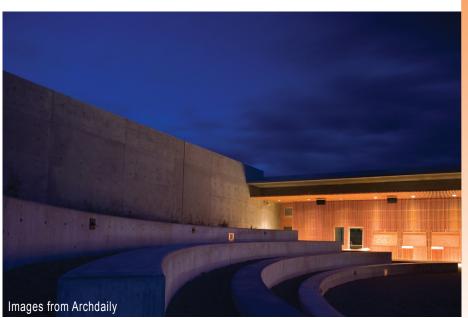




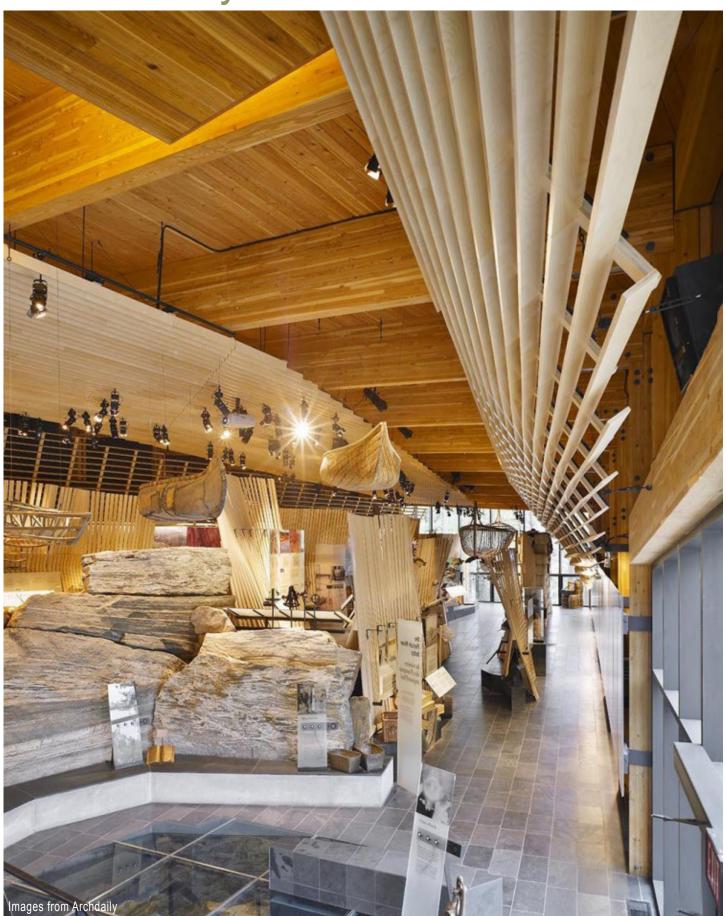
Case Study 2







Case Study 1



French River Visitor Centre Baird Sampson Neuert Architects Alban, Ontario, Canada 2006

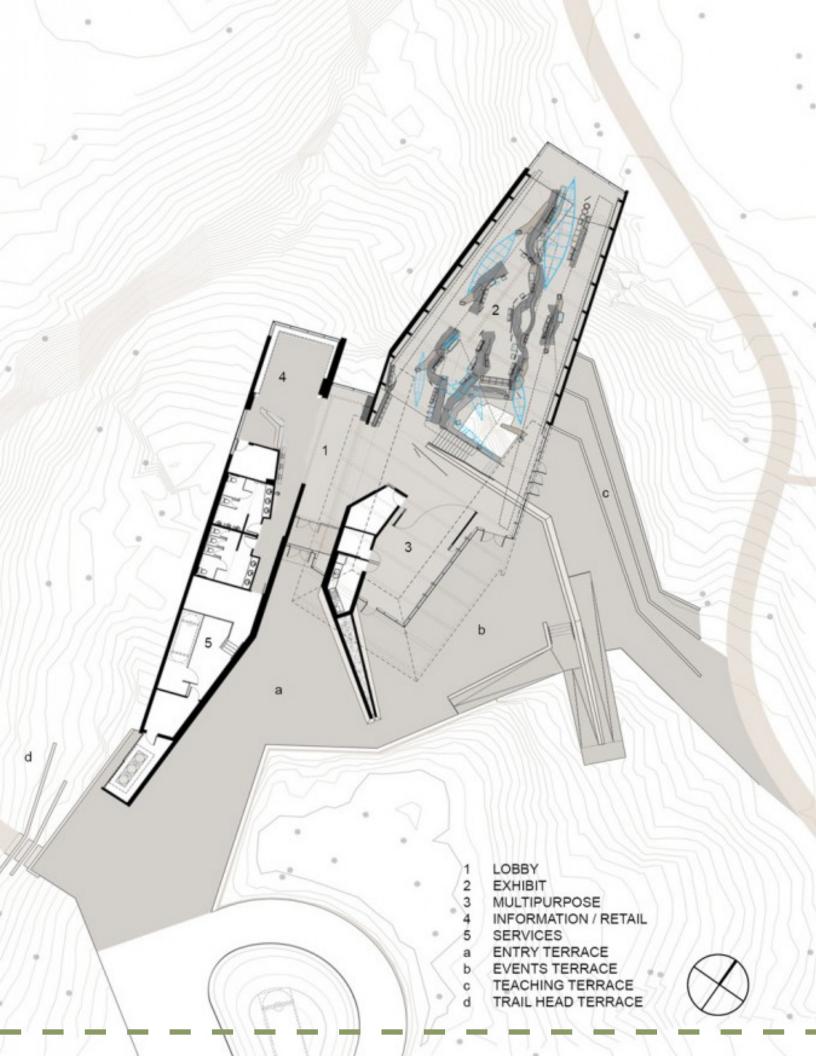






This visitor centre establishes an architecture of the French River, defining and invoking its physical qualities and cultural legacy through an integrated approach to architecture, landscape, and exhibit environments. The handeling of interior to showcase the exhibits was done quite beautifully. The fantastic wood ceilings and structural members in this project convey a great sense of craft playing off the exhibit pieces. Add the stone, and you generate a tactily rich experience. Moving beyond the role of container, this 8,700 square foot project embraces its condition as a place of passage and is itself an expedition through its placement, organization, views and exhibition, and as a responsible construction in nature. Flowing across an archetypal landscape of rock and water, the visitor experience is organized along a continuously inclined topography of found and constructed elements that establish an interpretive and spatial armature for the project. The building graciously thrusts its occupants into the space of the trees, overlooking the river in the distance as it descends into Lake Nippissing to its delta at Georgian Bay. The building's program is straightforward and simple enough as to not cause confusion upon entering.

The French River Centre, like the other cases, fits well into its context. Although universal design is prevalent, it does not dominate nor impede the experience of the place. However, one thing unlike the other cases is the material palette.

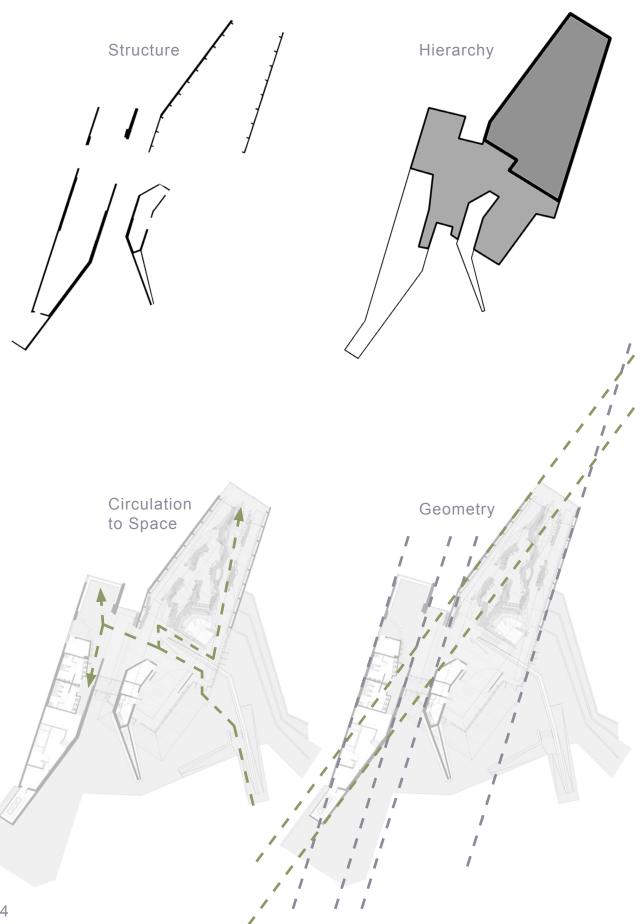




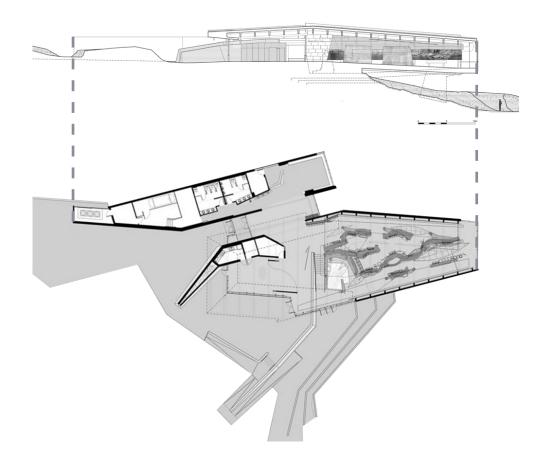
This is an incredible array of materials and pieces all working together, complimenting one another, and building off one anothers presence. Geographically, this location marks the transition to the Canadian Shield. Designated Canada's first heritage highway, the river served as a trade route between the natives and for Europeans and was the primary route for inland exploration of the continent. It has been a primary source of uniquely Canadian mythology, inspiring native pictographs and European depictions of heroic river journeys and contemporary work. Its landscape of granite scraped bare and fractured by the passage of glaciers is reflected in its terraces. In its descent from its headwaters, the river transforms from a fractured granite gorge into a vast delta of sculpted granite islands and outcrops. Its environmental impact is kept in check due to water and sewage bio-filter systems in its parking lot and systems to negate erosion to the landscape.



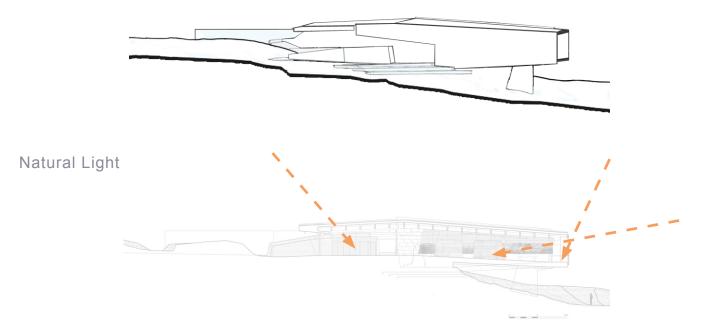
Analysis



Plan to Section



Massing



Case Study 2



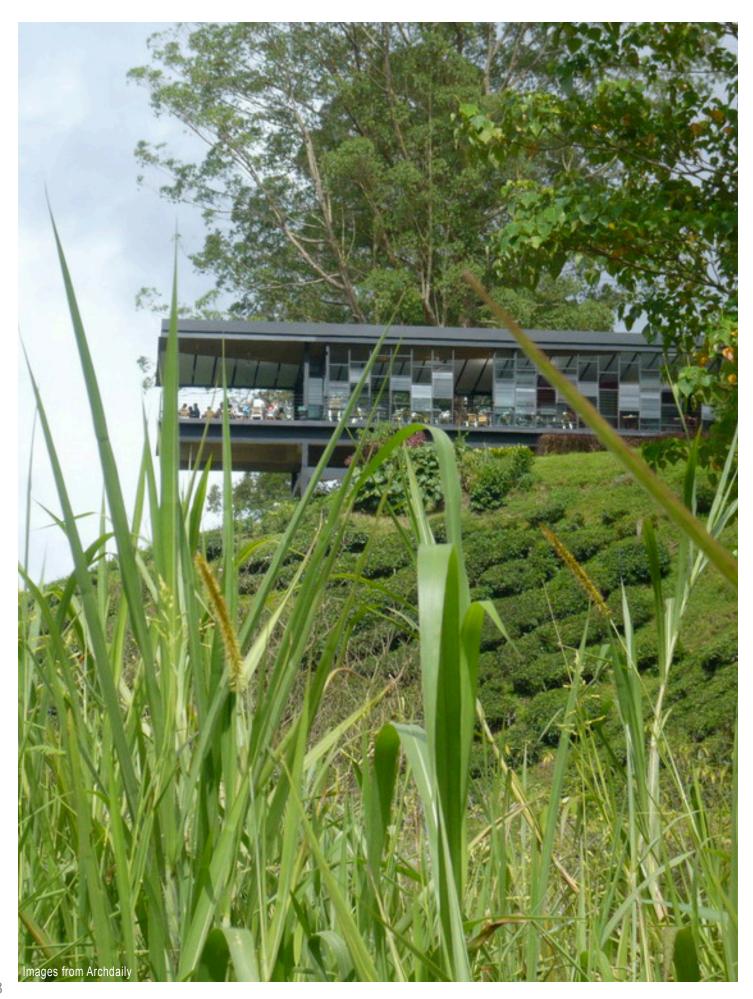






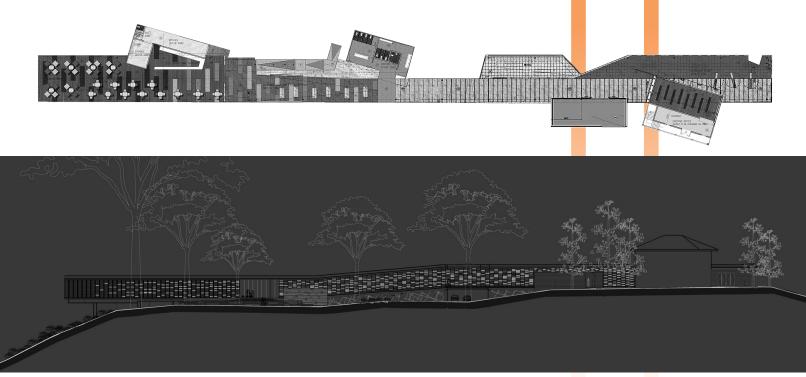
Boh Visitor Center
ZLG Design
Cameron Highlands, Malaysia
2006

The 13,280 square foot Boh Visitor Center is a fascinating experience in its exotic landscape. Based on a tea plantation, it frames the landscape with its simple tectonic form. It provides visitors the estate opportunities to view and appreciate the world around them through a transparent membrane. This building addition was a basic way to address the owner and operator's requirements to meet certain sales targets. It also houses and connects the existing tea shop to the improved visitor facilities. The Boh design was about placing a simple path to connect an arrival experience atop a hill to a destination point at the end of an enclosed space. This destination is the old factory where making tea by hand is observed. Particular in this project is the strict influence of direction and movement. It is a clear and obvious exposure. Never really intended to displace or rehouse any of the existing structures and facilities, it was designed to collect the various buildings into a single unified whole. The alignment of the building footprint is critical, and the execution of this gesture to leave things as they are resulted in a form that appears to be completely natural, completely belonging to the place. It is now hard to believe the new structure had not been there for the 50 years or so before it was built. This is probably the most rewarding and notable experience, a timeless seamless entity. The building, only partially enclosed by sliding glass panels in one area, allows maximum views and natural ventilation especially on those very warm days.



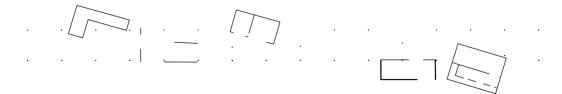


The shape of the building and its location are direct responses to the site. It contains cut outs in the structure to avoid cutting down existing trees or demolition of other important site features. A new parking area for the visitors is now at the back and is accessible by drive below the "bridge" segment of the new building. Of course, with natural ventilation, the visitor center has only a very minimum number of mechanical or air conditioning systems. With extensive daylight penetration to reduce contrast between outside and inside lighting conditions, it allows for maximum external awareness. For the most part, the building is elevated to provide space below the underside of the structure, a gesture to reduce the impact on any of the original contours of the terrain. Moreover, this makes the building "float" above the ground. Compared to the other buildings, this structure has the least impact on its environment and boasts a substantial amount of detail in its passage thanks to tree trunk seqments mounted in envelope segments.

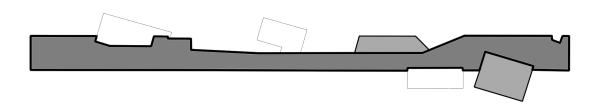


Analysis

Structure



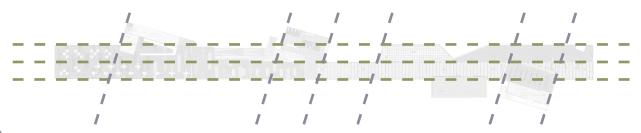
Hierarchy



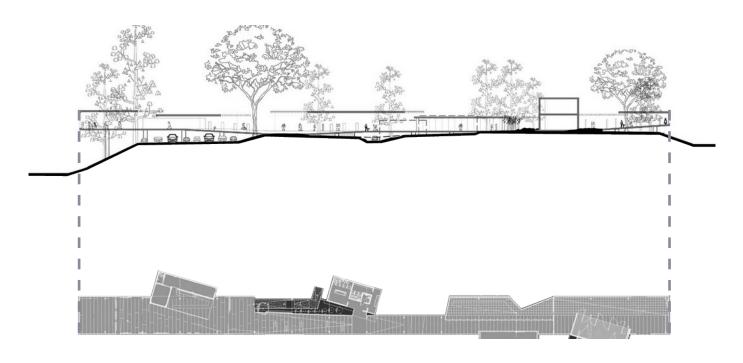
Circulation to Space

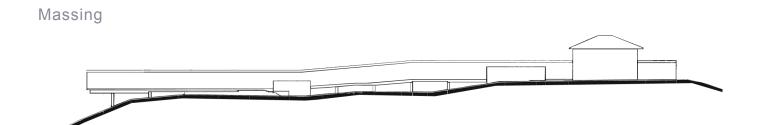


Geometry

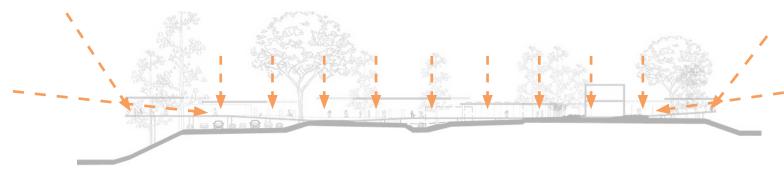


Plan to Section





Natural Light



Case Study 3



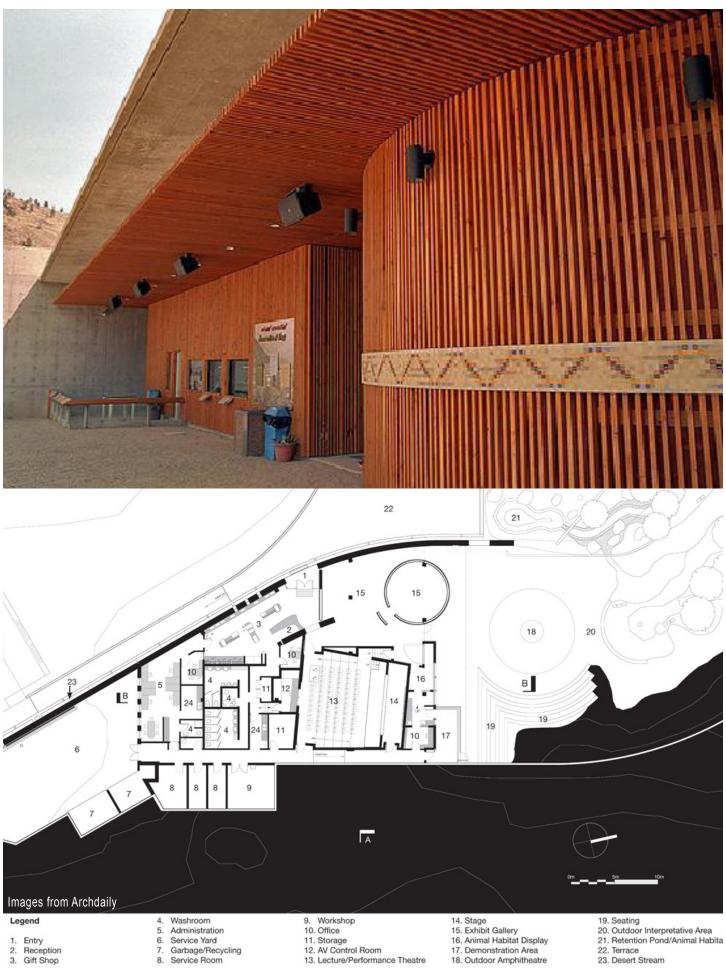


Nk'Mip Desert Cultural Centre
HBBH
Osoyoos, British Columbia, Canada
2006

The Nk'Mip Desert Cultural Centre is designed to be a specific and sustainable response to the building's unique context, the unusual Canadian desert found in the South Okanag<mark>an</mark> Valley in Osoyoos, British Columbia. It is the first of a number of new B.C. aboriginal centers, and part of a growing trend to explore the expressive potential of architecture to convey the rich past and the transforming future of aboriginal culture. Sited adjacent to a remnant of the Great Basin Desert (approximate<mark>ly</mark> 1,600 acres are being preserved by the band as a conservation area), this interpretative center is part of a larger 200-acre master plan. The 12,000 square foot building features indoor and outdoor exhibits that celebrate the culture and the history of the band, is designed to be an extension of the remarkable site, and reflects the band's role as stewards of the land. The partially submerged building is sited very specifically to focus the visitor's eye away from the encroaching development of Osoyoo<mark>s t</mark>o the west. The height of the wall is set to create a layered view of the desert rising up <mark>in</mark> the mi<mark>dd</mark>le ground, receding to the riparian landscape adjacent, and to the mountains in the dist<mark>an</mark>ce. Th<mark>is</mark> fragile landscape is a unique piece of Canada; thus, several sustainable measures were taken. Water, a valuble resource in a desert environment, is used in a very sustainable way in this buil<mark>di</mark>ng. Dem<mark>a</mark>nd on the site-fed well is reduced by 40% by incorporating low-flow faucets, waterless urinals, and dual flush



toilets.



- Entry
 Reception
 Gift Shop

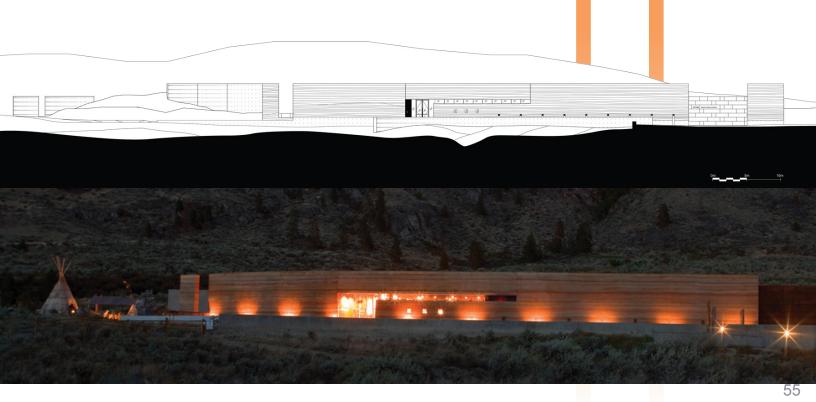
- 12. AV Control Room
- 13. Lecture/Performance Theatre

- 18. Outdoor Amphitheatre

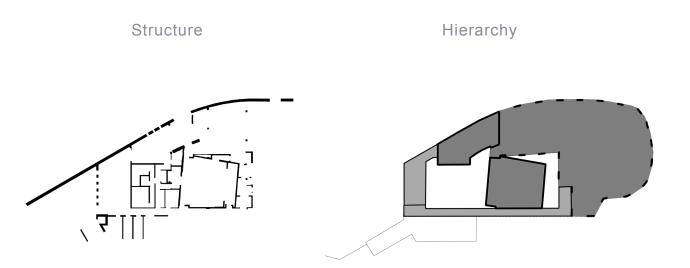
- 23. Desert Stream

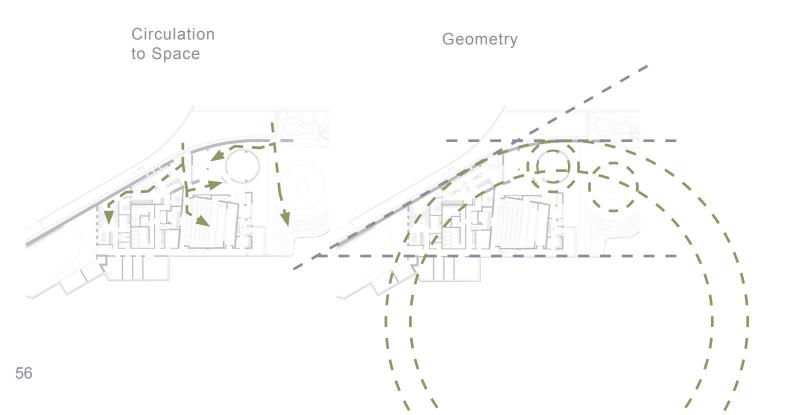


The partially buried structure mitigates the extremes in temperature, and its orientation optimizes passive solar performance with glazing minimized on the south and west sides. The insulated rammed earth wall(the largest in North America), along with the landscaped green roof, stabilizes temperature variations during the day. Being the best example of the three when it comes to regionality, there is really nowhere else this building could exist. Its rammed earth wall especial<mark>ly</mark> repres<mark>en</mark>ts this. This construction mode is a universal technique using concrete, a common building material, mixed with local soils and dyes. The re<mark>gi</mark>on can <mark>al</mark>so be seen in its use of local bluestain <mark>pi</mark>ne. In c<mark>o</mark>mparison to the rest of the case studi<mark>es, it has a</mark>n engaging way of informing visitors about the band's past and continued work within the Nk'Mip Desert. It acts as a model of continued exploration of preservation and protection of a culture threatened by a changing world.

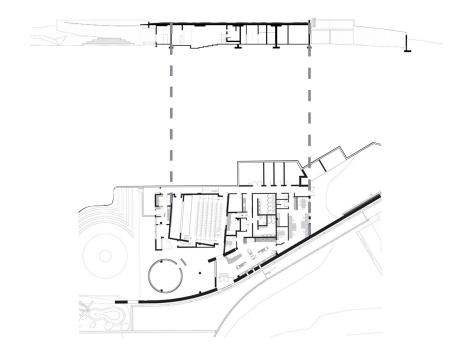


Analysis

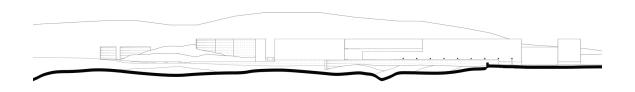




Plan to Section



Massing





Typological Summary

These three case studies where selected based upon their typology. I was in the market to try and determine exactly what sort of spaces I would need and the character of said spaces. In the end, I found some intriguing correlations to my theoretical premise/unifying idea. Every case study, in different ways and in different degrees, confirmed the base question behind my thesis. It tells me that I have selected a very good typology to test out solutions.

A visitor and interpretive center should be composed of several key things. First and most important are the exhibits. Whether these are inside, outside, large, or small, they must be easy to understand and interactive. Attention needs to be draw to them through the movement through the space and the hierarchical set-up and composition of the overall building. These connections between spaces will need to be very formal and cohesive. It is also very important to have a somewhat seamless connection to the surrounding context which means views, paths, and other sensory stimuli must pass easily through some sort of threshold. These places need to be able to observe all that is around.

Sustainability must play an important role within any high quality building designed these days, especially for reduced mechanical equipment and costs. For this sort of building, the effect is more importantly environmental. My case studies did offer me some ideas about having less of an impact on the environment, which will especially come in handy when I consider erosion control and drainage. The French River Visitor Center gave me some suggestions on handling that.

These projects had many commonalities. They all had very natural context and were mostly spared a very heavily populated location. They were also very intimate. Nothing about these projects was overly dominant on their sites. There was more of a respectful joining between the spirit of place and a man-made structure. The built forms were honest, straightforward elements with a tactileness about them that many other projects wouldn't have capitalized on.

As much as these buildings had in common, one thing that was inspiring was observing how these projects where handled at the three very different sites. Different climate conditions and cultures made for some starkly unique buildings. These designs are very regional in nature and speak highly of the importance of place. The Nk'Mip Desert Cultural Centre in particular used many local materials in its construction. It stands as a symbol, perhaps even a landmark, for the native people of the area and their stewardship to the land.

Historical Context

Because of its very nature, a visitor's center is reflective of its surrounding context. For over 100 years now, the constructions of these facilities around the world have coincided ultimately with the decision to protect and preserve a landmark, park, or other historically significant place. With the establishment of the National Park Service (NPS) in the United States in 1916, some of the best natural, cultural, and recreational treasures of the country were entrusted under the care of a federal agency. The architecture of these places found their way into the mainstream. Most of these designers did in fact look to the surrounding landscapes for influence but also maintained the prevalent tendencies of style at that particular time. The stereotypical rustic style we might associate with the park system was actually developed around the 1920s and spread across the nation during the work-relief programs of the depression. It is important that these places showcase national significance in their architecture. Branching out a bit further, interpretive centers are now acting as a kind of new style museum these days, especially when you consider the advances in audio/visual and other multimedia outlets.

These places are interactive, hands-on, and communicate information in fascinating ways to stimulate visitors' intellects and create an emotional connection to their natural and cultural settings.

In the last few decades, more and more people have developed interest in protecting our natural landscape. In this case, for over 300 years the St. Croix River and its surrounding area was harvested, exploited, and manipulated. Now, it has shifted to be cared for because of its scenic beauty, habitat, and recreation. The fragile ecosystems in our backyard have been rebounding from some issues of the past like pollution and species decline while at the same time have been gaining new threats like invading species, erosion, and increased human development. The nature of our society has also changed. Our recent technological boom has drastically transformed the way we are informed and entertained. With people and, more importantly, kids these days so focused on a screen, it is has become important to reestablish connections with the things immediately around us that are worth keeping. Physical, mental, and spiritual health can all be improved by coming outside.

My Interpretation center will be located at a historic marker along the mighty St. Croix River. Referred to as the "Boom Site," this location along the bank was the center for the logging industry in the region. Prior to 1914 and for over half a century, millions of logs were floated down the upper St. Croix and her tributaries to this location. Once halted, they were branded, sorted, and bundled in order to be sent just a little further down to the mills of Stillwater.

This was an ideal location for a boom site because the river, at this point, opens up into a large bay that becomes the town of Stillwater. This locale, however, brings up some severe problems. The proximity of the river to the site makes for a great opportunity; however, it is possible to further damage the river. When you consider drainage, structure, and increased human interaction, it is no surprise that this building might have the exact opposite effect for the NPS. It could become an instrument of further river erosion, pollution, and development.

The St. Croix River valley is a remarkable treasure. It has an abundantly diverse ecosystem of plants and animals. The actual river itself is very much alive due to its healthy waters and riparian zones on the banks. An accurate way to tell this is by sampling the water ecosystem itself. The river contains 94 species of fish and still has all 40 species of historically recorded mussels, a very clear and accurate indicator of its cleanliness and diversity. The area is a unique convergence of coniferous forests to the north, deciduous forests to the east, and prairie to the south and west. The vally's hardwoods like maples, birches and ashes take your breath away in the fall with their brilliant colors and its red and white pines stun you with their incredible height. The river's proximity to the twin cities makes it all the grander. Its guiet natural solitude makes it a rare gift to the people of the twin cities area. With the water being only about 10 minutes away from the metro (only 20 minutes from downtown Saint Paul), this river maintains a high tourist turnout while maintaining its cleanliness.

It has been said that you can get to know the water very personally even though you can never fully wrap your head around its 252 mile stretch. The actual protected riverway starts as the Namekagon in Wisconsin. It flows west about 98 miles to join up with the St. Croix around Danbury and then begins the journey south, forming the Minnesota and Wisconsin Border. It is in Prescott, MN, where it joins up with the Mississippi. The river also is full of evidence of long ago human interaction. Old equipment of the logging and fur industry can sometimes be seen, and within some of the cliffs, you can still spot paintings and strange markings hundreds, even thousands of years old. Some of the state parks even have old burial mounds.

The history of the St. Croix River Valley is a fascinating one. It has gone through many changes in the last few hundreds of years, but it all starts back around 15,000 years ago. At this time, Minnesota and Wisconsin were covered by massive glaciers 1,000's of feet thick. When the water from these glaciers melted, they carved paths through the ancient volcanic basalt now called the dells in Taylors Falls, MN. These natural rock dams were no match for the enormous amount of lake water leftover from the ice; thus, the St. Croix River and its northern Wisconsin supplier, the Namekagon River were formed. This area was home to two Native American tribes: the Ojibwa, and the Dakota. The Ojibwa were best known for cultivating one of the best native resources of this wetland region, an aquatic grass known as wild rice. To do so, they weaved in and out of the grasses in canoes and struck the grass with hand carved cedar sticks.

They also began trapping beavers and other animals for the booming fur trade that invaded the area by the French in the first half of the eighteenth century. The Ojibwa would trade these furs with the Europeans for metal tools and firearms. After the French and Indian War of 1763, the British had taken over much of the operation under the North West Company based out of Montreal. With the beaver populations nearly depleted, inbound settlers looked to the vast old growth forests for income; their tree of choice was the White Pine. In 1837, a treaty was signed with the natives that opened up the region for loggers. Over a dozen sawmills were opened in the area, most of them around the Stillwater area. The St. Croix would clog up every season with large timbers making their way south. Occasionally, the logiams became so cluttered and tight that it was possible to actually walk across the river without getting wet. Sometimes, dynamite was brought in to free them. In 1883, a logiam in the narrow Dallas of the Saint Croix area lasted 57 days. The forests that had once seemed endless were soon all clear-cut and methods of logging had begun to change. The turn of the century marked a big change for the area. A hydroelectric dam had been built in St. Croix Falls and started generating power in 1907. By World War 1, serious logging in the region had ended. At the conclusion of World War 2, prosperity had created a great desire to live by the river. Cabins began popping up, and towns began to grow. The river began to degrade from the sewage of the residents. On the national scene, most rivers had already become unfit for recreation due to large factories and cities wastes

Clean and free flowing rivers became a national ideal in the 60s, and because of this, the St. Croix and the Namekagon together form the St. Croix National Scenic Riverway protected under the Wild and Scenic Rivers Act of 1968. This scenic riverway was one of the first 8 rivers designated under this new system.

As powerful and majestic as the riverway is, it is threatened by some outside sources. In 2009, the Lower St. Croix River landed the number 10 spot on America's Most Endangered Rivers. With a watershed of nearly 8,000 square miles, it has quite a bit of room for pollution and contamination, especially from agriculture. One contaminant is an invasive species known as the Zebra Mussel, which is causing some serious problems for the more endangered mussels in the area. In the past, larger dams and power plants had been proposed to prevent flooding. One dam proposal would have created a reservoir 30 miles long that would have wiped out 7,000 acres of habitat; luckily, this never happened. Today, growing pressure for development, especially south of the hydroelectric dam, is the river's biggest threat. These community expansions into the river area, although perhaps graciously motivated, could in fact be damaging that which makes the river so great. Hence, my greatest challenge for this project will be the careful integration of a building so close to the river and its riparian zone.

Thesis Goals

For this thesis, first and foremost, I aim to expand North Dakota State University's output to the academic world. I will do so by indirectly following up on past thesis projects by university students. There is a substantial amount of work by former students who either focused on the same theoretical base, the same typology, or the same site location. I also will be providing possible avenues for future students of the university who may choose to follow up on aspects of my work. My thesis is meant to generate a conversation for an academic environment. Whether it is accepted or dismissed, agreed with or disagreed with, my hope for my thesis is that it is taken and reviewed seriously and causes people to think.

With graduation looming on the horizon and the economy making a slow and awkward recovery, I certainly feel a little anxious about getting out in the real world. Yet, I remain hopeful and optimistic, ready to start my internship years. This thesis will act as the centerpiece of my portfolio; everything else is just secondary.

Because of the amount of time spent on my thesis in addition to being able to decide what it is with limited professor direction, it will be the best representation of who I am and the skills I could offer to a firm. Professionally, I might continue doing this kind of work in a firm, expanding further on the questions and solutions I raised in this thesis. Perhaps I could be selected to join a team based on the typology of a visitor's center or be selected by a Stillwater firm because I accurately portrayed a regional design they agree with and could envision happening in their town. Whatever happens, this thesis should play an important role in helping me get a job and furthering my professional career.

Finally, because this thesis is my own conception, it will always be a very personal accomplishment of mine. It embodies my values and what I see as important in architecture. Because I am doing this thesis around my home community, in a way, I see this thesis acting as the sum of my time spent growing up in the area. It represents the culmination of my experiences and my investments in the place I am from because I have reached the point in my life where I will enter a new chapter. I am about to graduate, and from here, I may choose to leave and explore opportunities somewhere else. In the 5 years I have been in school, I have learned much, but the care and fun I drive into this thesis, I hope, will remain with me and inspire me as I move forward.

Site Analysis

The St. Croix Valley is a diverse region full of natural and cultural beauty. Off of highway 95 just north of historic Stillwater, MN, is a parcel of land about half a mile long between the road and the water. It is here that my project will take place.









Topography and Elevation

The "Boom Site" on the Lower St. Croix River has many great opportunities and challenges for a project of this type. The first thing to note about this site is its relationship to the river. The upper plane connected to Highway 95 is around 50 to 60 feet above the water level. This section is comprised of three separate pieces with a natural draw running through the north end. The lower plane at its highest point is around 10 to 20 feet above the water. A sheer cliff separates the two.

Upper plane



Lower plane







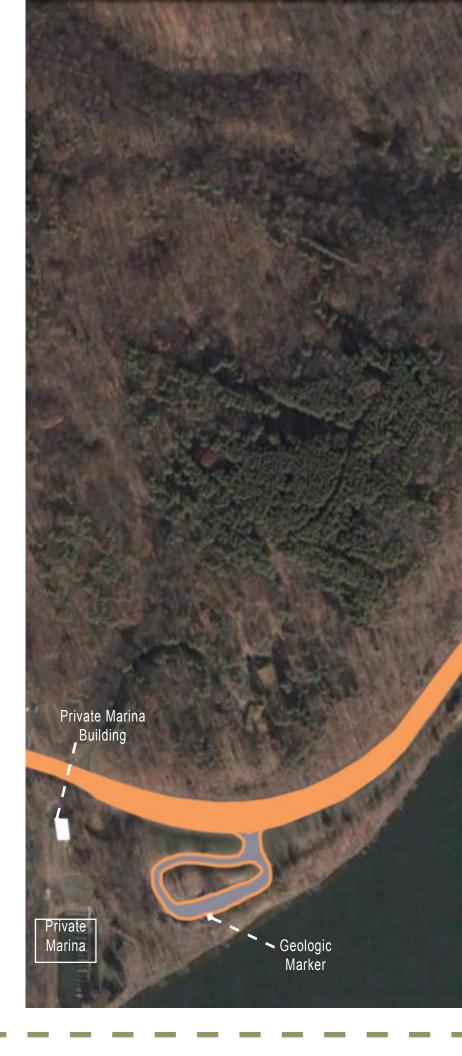
Existing Features

There is very little surrounding the site. In the southwest corner, there is a private marina with no connection to the Boom Site and just adjacent from the north end is a small residence. On the other bank, a building is perched on top of the cliff and downtown Stillwater is visible 2 miles to the south.

The site's built features have currently fallen into disrepair through government neglect. What used to be a focal point for the region is now an under-used wayside rest for travelers on Highway 95 and those seeking recreation.

An old restroom is only one building on site. Also important to note is the bridge spanning over the draw as well as the stairs leading down to the beach.

From the beach there is a cave with a small room inside. It is not known what this cave was specifically used for.









Geology and Soils

My building will be resting on #2 and part of #1. This will provide a firm foundation.

The highest the river has ever gotten was 94 feet. Which puts the flood zone right at the highest point on the lower plane.

- Mahtomedi variant-rock outcrop complex, 25 to 60% slopes
- Copaston loam, 0 to 6% slopes
- 3 Algansee loamy sand
- Mahtomedi loamy sand, 12 to 25% slopes
- Mahtomedi loamy sand, 0 to 6% slopes
- Mahtomedi loamy sand, 6 to 12% slopes
- Ritchey soils and rock outcrop, 20 to 35% slopes
- Whalan silt loam. 6 to 12% slopes, eroded





Site Reconnaissance

Utilities

There is no electricity available on the site. There is waste and well for restroom.

Vegetation
There is deciduous and coniferous trees and shrubs. Most of the cover is in the lower plane.

Water

The south flowing river runs clean and clear at 2-3 mph.

Noise

The sound of cars on Highway 95 dominates the upper plane. The lower plane is substantially more quiet and peaceful.

Activity/Distress

People use this area for swimming, fishing, parking boats, bon-fires, and picnics. Also, there are signs of water run-off and erosion. There is minimal animal activity. A fair amount of graffiti especially on the rock outcropping on the lower plane can be seen.















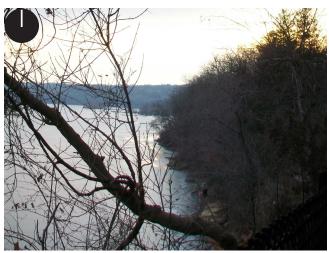




































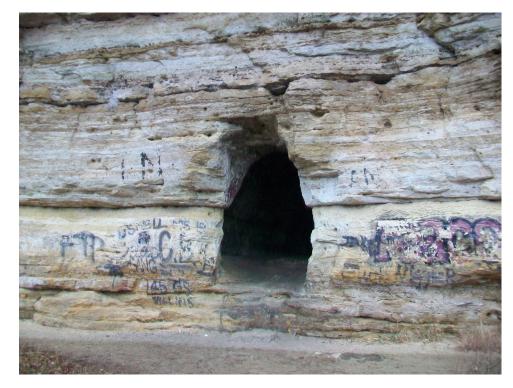




Site Character













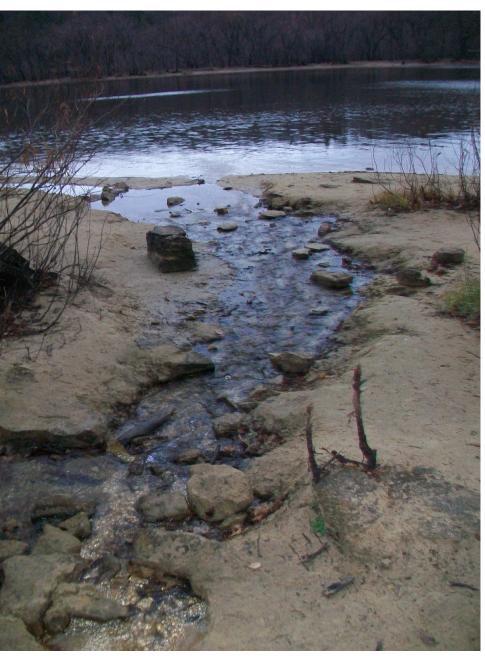






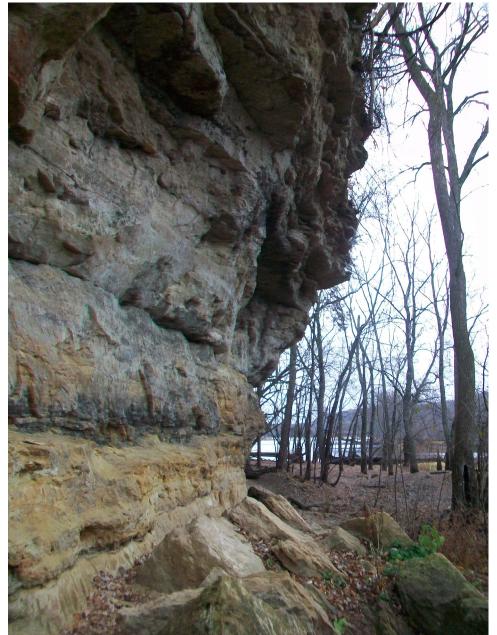






















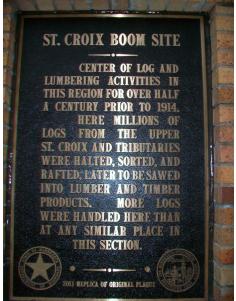








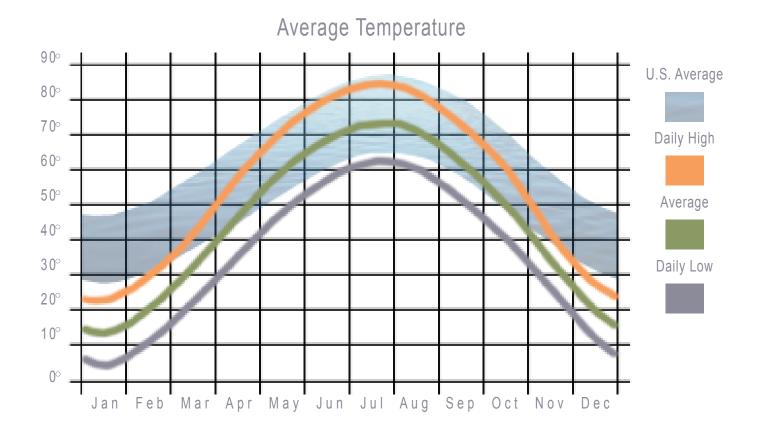


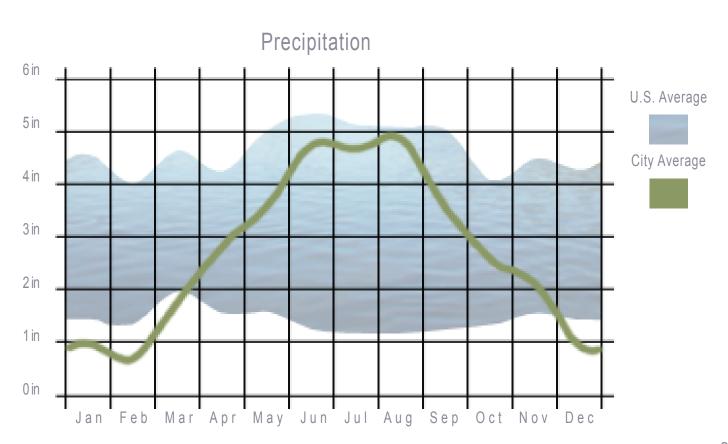


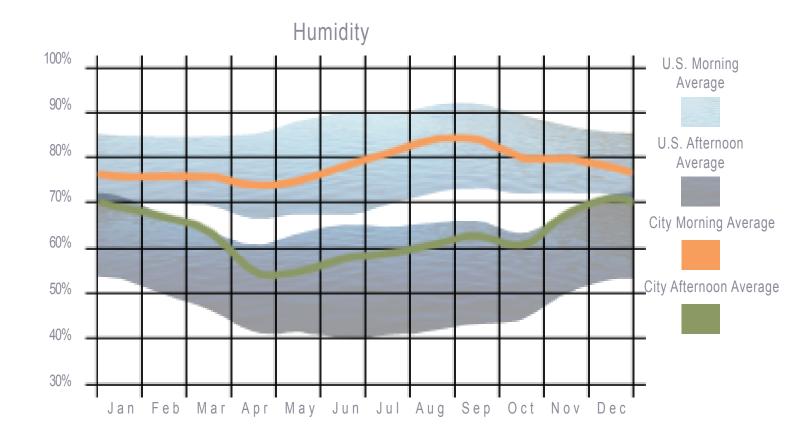


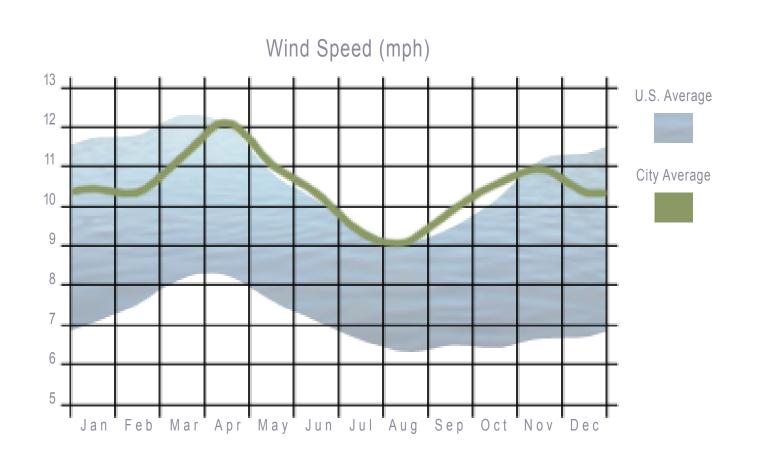
Climate Data

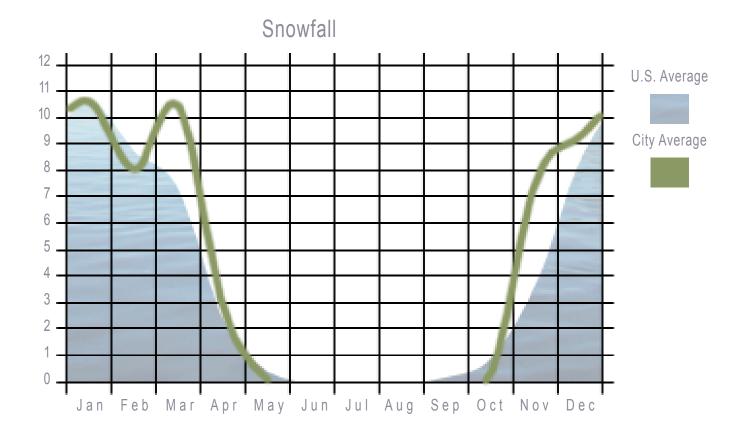
Typical of the humid continental zone of the United States, the Boom Site experiences cold winters and mild summers. The composition of the site to the south and the absence of surrounding buildings allow for a good deal of sunshine especially on the upper plane. The lower plane is more protected from the sun and wind.

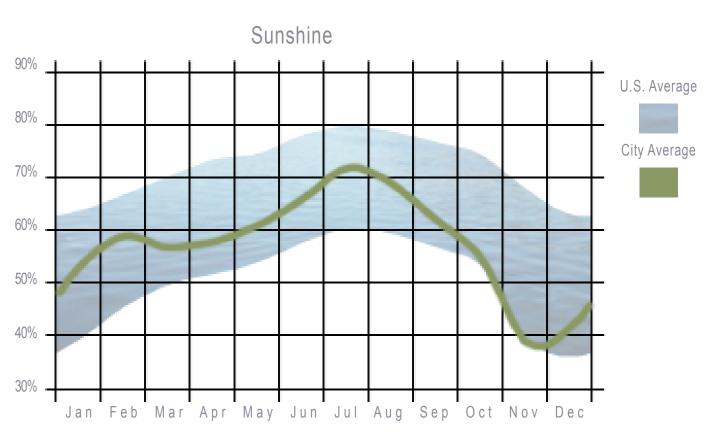




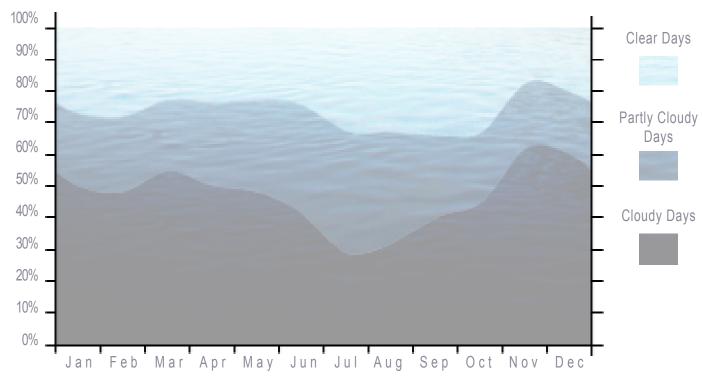


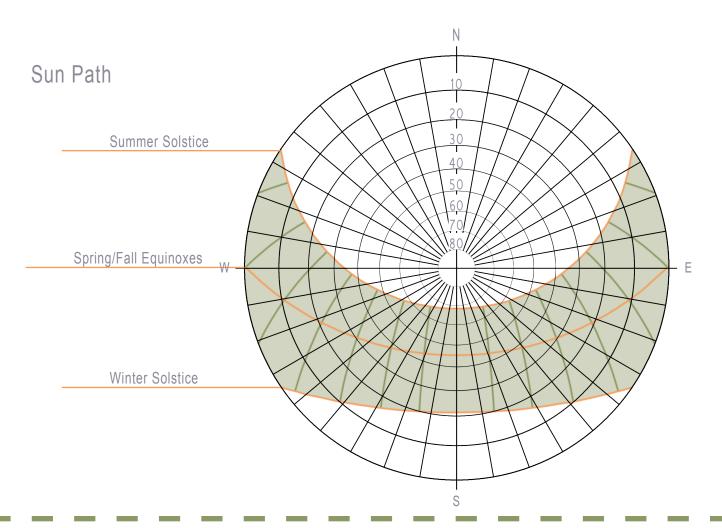






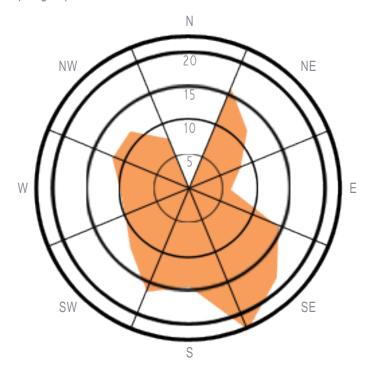




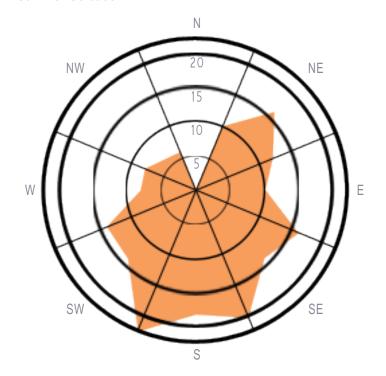


Wind Roses (mph)

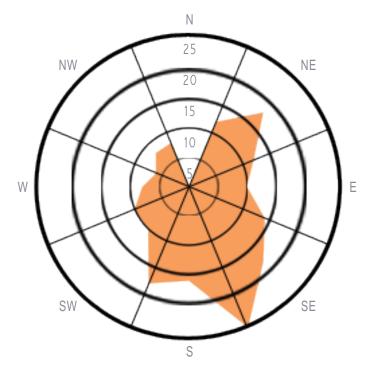
Spring Equinox



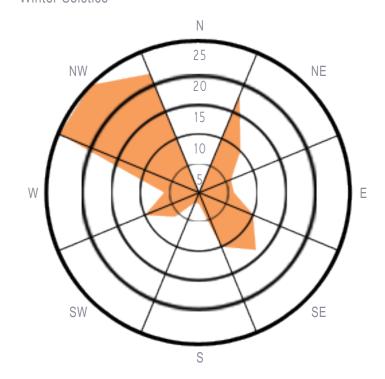
Summer Solstice



Fall Equinox



Winter Solstice



Programmatic Requirements

(sf)

entry (2)	200	
lobby (2)	1000	
gathering/event	3000	
reception (2)	100	
hearth space	1000	
lookout tower	3600	
scenographic exhibits	4000	
display gallery	800	
multimedia	800	
auditorium	3000	
multi-purpose	800	
classroom (2)	800	
information/retail	800	
admin. office	1200	
field office	1200	
conference	700	
public restrooms (3)	800	
staff restrooms	200	
staff room	600	

		(sf)	
maintenance/mechanical		100	
storage-collections		1000	
storage-archive		500	
storage-other (2)		200	
janitorial (2)		100	
circulation	10%		
emergency exits			
BUILDING TOTAL		26,500	
deck		2000	
gathering/event		4000	
demonstration		1500	
walking paths			
beach			
fire pits			
dock			
public parking 60 s	talls		
staff parking	10 stalls		

Interaction Matrix

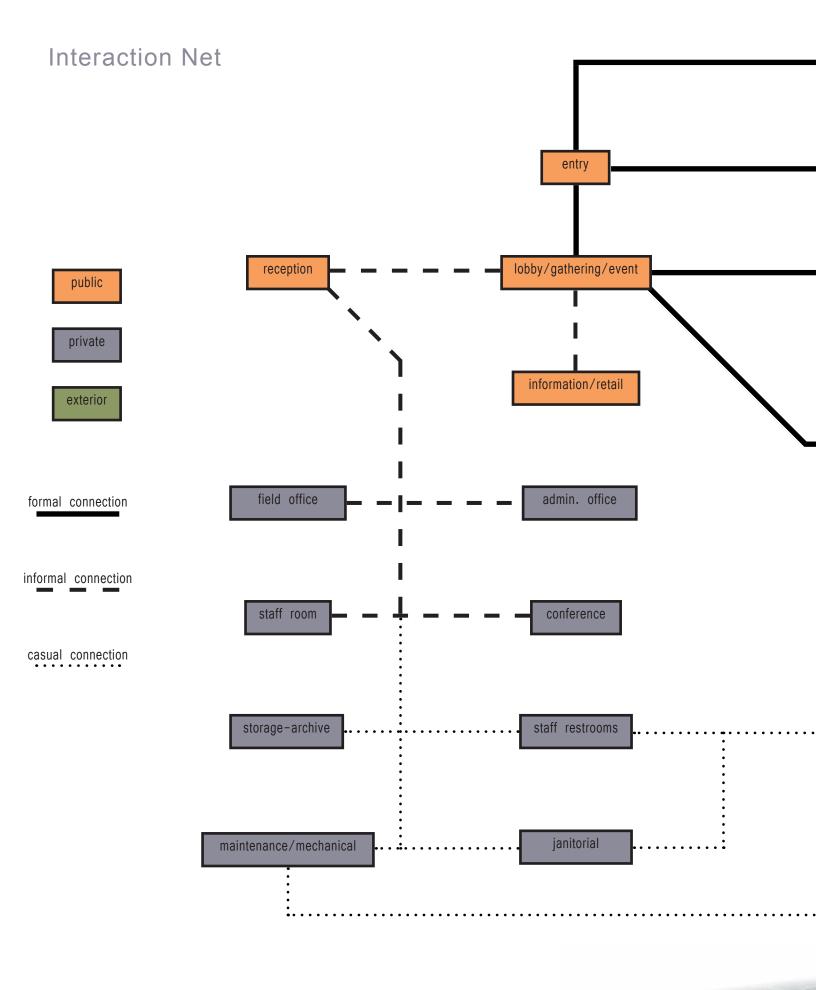
required desired

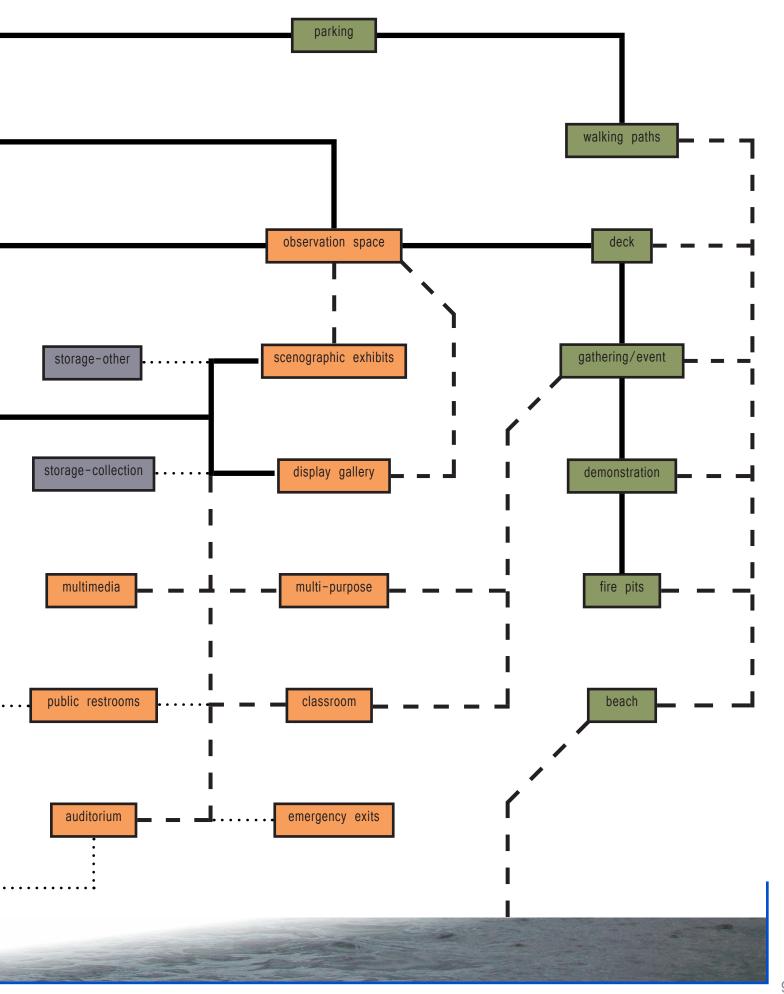
entry (2) lobby/gathering/event reception observation space scenographic exhibits display gallery multimedia auditorium multi-purpose classroom (2) information/retail admin. office field office conference public restrooms (3) staff restrooms staff room maintenance/mechanical storage-collection storage-archive storage-other (2) janitorial (2) emergency exits

exterior

deck
gathering/event
demonstration
walking paths
beach
fire pits

	interio	r	exterior
entry lobby/gathering/event reception observation space scenographic exhibits	display gallery multimedia auditorium multi-purpose classroom information/retail admin. office	conference public restrooms staff restrooms staff room maintenance/mechanical storage-collection storage-archive storage-other janitorial emergency exits	deck gathering/event demonstration walking paths beach fire pits





Previous Studio Experience

Second Year

Fall 2008: Joan Vorderbruggen

- -Tea House-Moorhead, MN.
- -Boat House-Minneapolis, MN.

Spring 2009: Megan Duda

- -Dance Studio-Fargo, ND.
- -Dwelling-Fargo, ND.

Third Year

Fall 2009: Paul Gleye

- -Center for Excellence in Future Studies-Fargo, ND.
- -Center for Intellectual and Social Life-Fargo, ND.

Spring 2010: David Crutchfield/Mike Christianson

- -Performing Arts Center-Austin, TX.
- -Iteration/Assembly project

Fourth Year

Fall 2010: Don Faulkner

- -High Rise-San Fransisco, CA.
- -KKE/DLR Group design Competition

Spring 2011:Don Faulkner/Frank Kratke

- -Marvin Windows Competition-Fargo, ND.
- -Boom/Bust Master Planning-Tioga, ND.

Fifth Year

Fall 2011: Cindy Urness

-Allergy & Asthma Center-Brandon, MN.

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Special Thanks

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Peter Kuelbs

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Julie Gulonska

Woody Wimberley

Dale Mulfinger

David Brandt

David Crutchfield

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Human perception is complex and fragile; an ever changing collection of stimuli, memories and values. Architectural design allows me to tap this collection for a given time and place, redefining what it means to exist in my world...... and in yours.









