

architecture of funerary traditions

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architecture of funerary traditions

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

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may, 2010
fargo ,nd

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micah s. deitz

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date

table of contents

abstract

7

problem statement

8

statement of intent

9

proposal

10

previous studio experince

20

theoretical research

22

case study research

34

historical context

56

site analysis

62

project goals

80

programmatic requirements

83

design prcess and completion

84

reference list

92

personal identification

93

statement of intent

abstract

This thesis will study the **funerary traditions** of the Iron Range people of Minnesota, and the funerary architecture of their western **ancestors**. The project design is a cemetery with supporting structures. It will also study the connection of place with a cemetery within the landscape. This landscape is the mined land of Eveleth, MN. This ravaged land is where the connection of tradition and to identify the architecture. The cemetery is for any person that would choose to be buried at the location and the scale of the main service chapel is about 3,000 square feet, with the supporting structures of the mess hall and temples add another 2,500 square feet.

After researching the place and funerary traditions, I will use the learnings to create an architecture that honors the past and proposes a new inspired **funerary architecture** for **future** generations.



problem statement

- How can current funerary architecture be influenced by the funerary architecture of past civilizations to honor and address current needs, and connect to the landscape in a more deliberate way?



statement of intent

typology

- cemetery

claim

- Western ancestors of Eveleth, MN(actors) developed funerary traditions that influenced(action) succeeding generations (object) up to the current generation.

premises

- The ancestor's funerary traditions that they passed on are currently influencing the civilization of the Iron Range by the survived funerary past of the ancestor's lives. Respectable funerary traditions of the ancestors carry on from one generation to the next and have continued to be honored and preserved, or have not been preserved, and lost for the future generations.

conclusion

- Architectural funerary traditions are ways of understanding a culture and its practices and therefore must continue to influence future generations and honor the respectable traditions of past ancestors.

project justification

- Our built environment is a continuing developmental process that influences the way we live and therefore needs to be influenced by the traditions of the past. The subject of architecture for the dead has curiously been neglected in many current cultures for unanswerable reasons. I intend to regain an awareness of the architecture for the dead. The dead are deserving of a place and architecture, James Curl states in *A Celebration of Death*, "The neglected cemeteries, poorly designed crematoria, and abysmal tombstone designs of the present insult life itself, for death itself is an inevitable consequence of birth. By treating the disposal of the dead as though the problem were one of refuse-collection, society devalues life." (1993)



proposal



narrative



If society values life in the concept of honoring the dead with a tangible creation, the creation needs to relate to a place. The chosen place or site is in Eveleth, Minnesota. The site is a non-operating open pit mine, and now has become an asylum for nature or a possible asylum for the dead.



An asylum for the dead is more than a place of rest for a vessel that once manifested a quality of life. It is a place for ritual in the landscape, and calls for the living to participate by honoring the dead in a particular place.

The non-operating open mine pit is a site of particular interest. The land at one time was a natural source of creation or existence that not long ago was defined by the rolling hills of northern Minnesota. Now the sense of place has been dominated by man to change the landscape into a beautiful illustration of the power of man. A pit 7,920 feet long and 1,200 feet wide and more than a hundred feet deep, man has now challenged the power of God by "moving mountains". Since the force of man changed the landscape of the Iron Range so drastically, its people and the way of life has been defined by this new beautiful creation of man.

This particular pit, different in its creation of a sense of scale and power; the cavity of the entire pit is daunting for the human mind to understand its sheer size and power that it represents to oneself. Intimacy, is the key to this pit/reservoir. The pit contains three alcoves on the south of the northeastern section that give the vast pit a sense of secluded private intimacy with the land that if not created by man would not have been experienced in the same way at this place.

user/client description

The Eveleth asylum for the dead will be used by the deceased, the loved ones of the deceased, and the operators of the cemetery's rituals. These groups of people are unique in the mental state of life they exist in:

deceased- the first in a state of mental absence

mourners- the second in a mental state of reconciliation

care takers - the third in a mental state of empathy

The living users of the place should within reason, be able to access all proposed structures of the site, during most seasons of the year. Since the typology is associated with many elderly visitors, parking and certain structures will need easy access from a vehicle. All spaces and structures on the site will be used by the loved ones of the deceased at any time they feel need to visit.

The clients of the asylum will be the citizens of Eveleth. The intention is that the people affiliated with the city will not have to purchase the land nor the services of a care taker. This will ease the mental state of the mourners and develop a sense of community in the asylum. The ideal situation of the city owning this site would be for the iron mining company to give some land back to the community.



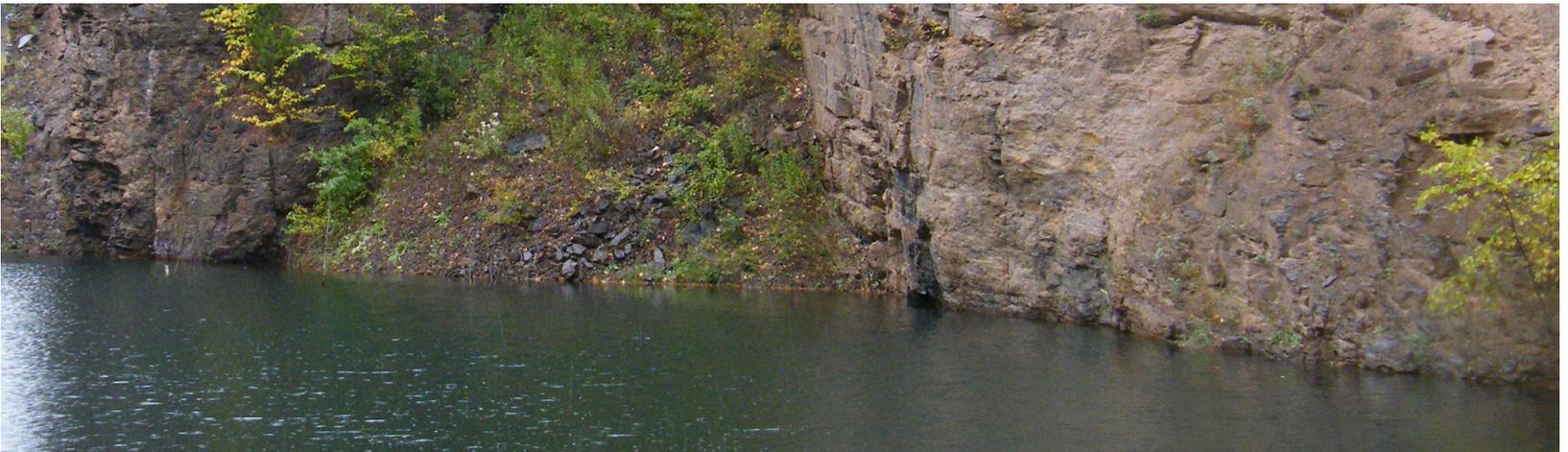
major project elements

service chapel is a structure that is to be used by all groups of people. It will contain other elements that are necessary for the ritual of providing a funeral service in an enclosed structure. These supporting structures will consist of a waiting room before entering the chapel space, bathrooms for the guests to use, a office/counseling space will be used for the operation of helping the loved ones of the deceased to cope with the death and help them with the service of the ritual of death, circulation spaces will be needed for the procession of space, and mechanical space will provide the chapel and its supporting spaces with the necessary mechanized needs for comfort.

mess hall is a space for the living to gather and socialize after the service. This structure will need bathrooms and a kitchen to service the people attending.

various temples will be set in the landscape for reflecting and meditating in honor of the deceased. These structures are to be used by one or two people because this space is intended to be an intimate space. There will be no need for supporting spaces with these temples of reflection.

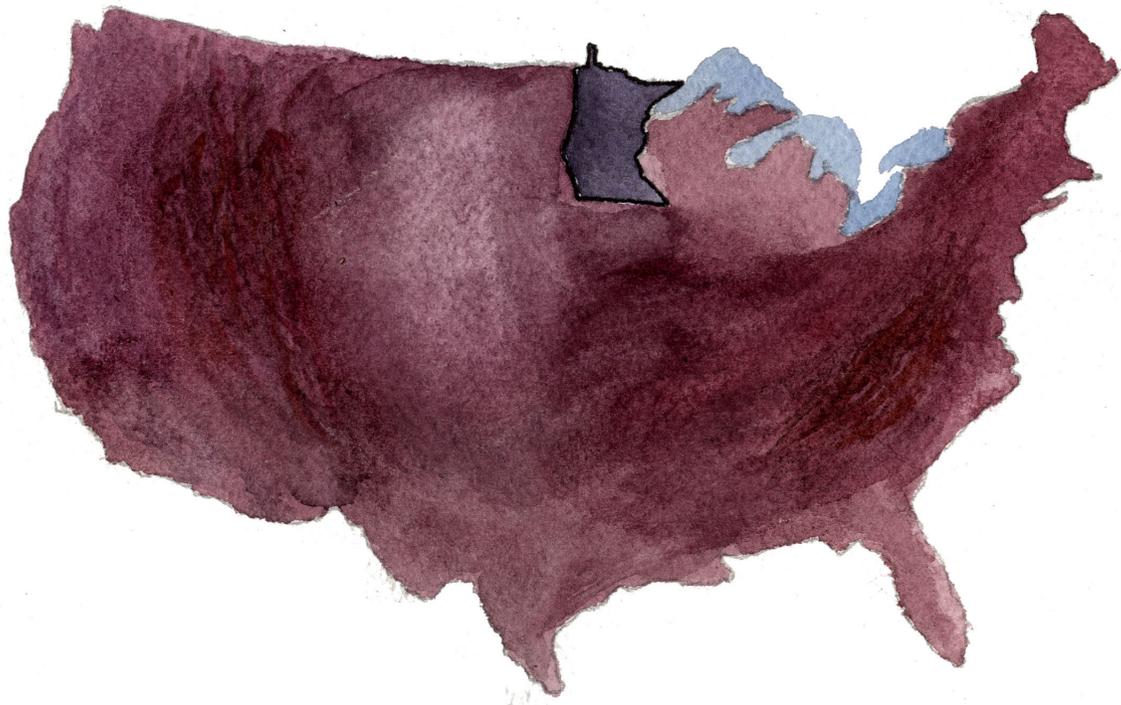
coffin garden is a place on the site for the coffins to rest. The garden will be used for the storage of the intact remains of the deceased, and for visitation of loved ones of the deceased. The operators of placing the deceased will also use this garden to service it.



site information

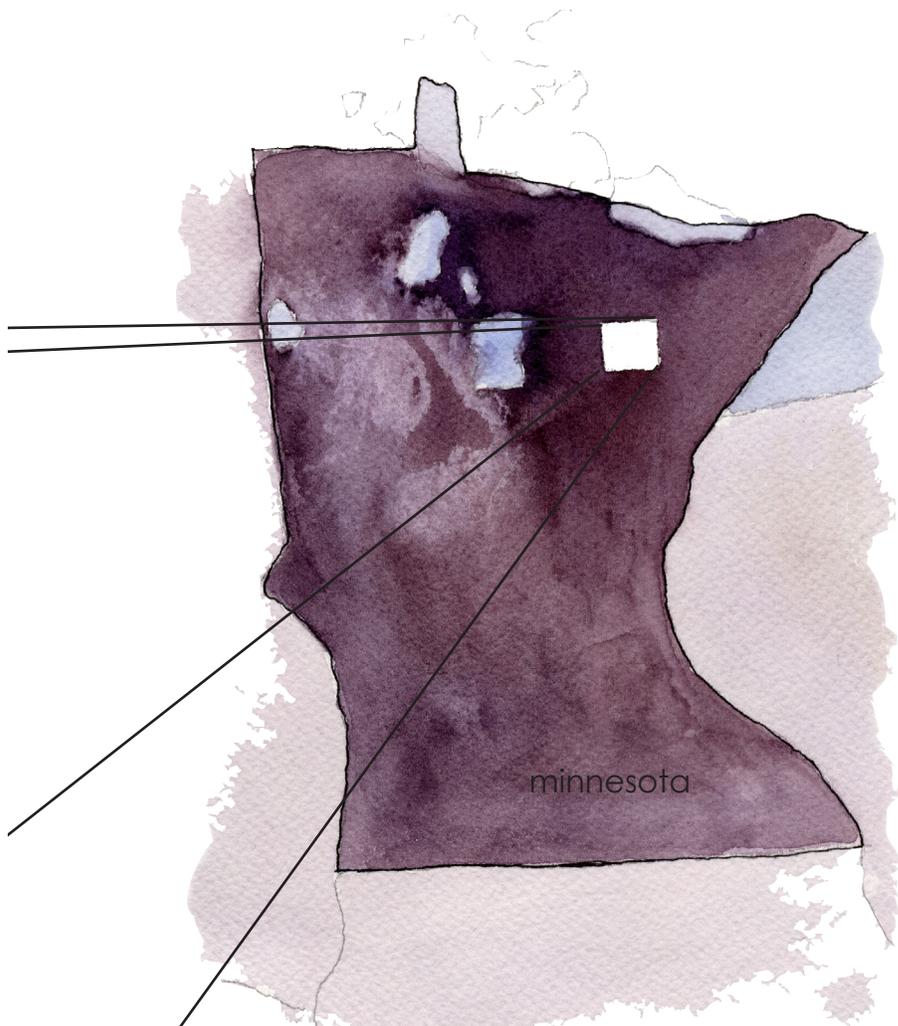
Minnesota is a world economic hub for the production of iron ore. In Minnesota the chosen city of Eveleth is a main producer of iron ore. Eveleth is located on the Mesabi Range, one of the sub-regions within Minnesota's Iron Range. The town's economy has always been tied to iron ore mining and processing which occurs in the area still today. According to the United States Census Bureau, the city has a total area of 6.5 square miles.

The National Hockey Hall of Fame is also located in the city, defining hockey as a great cultural past time of the northern Minnesota Iron Range.



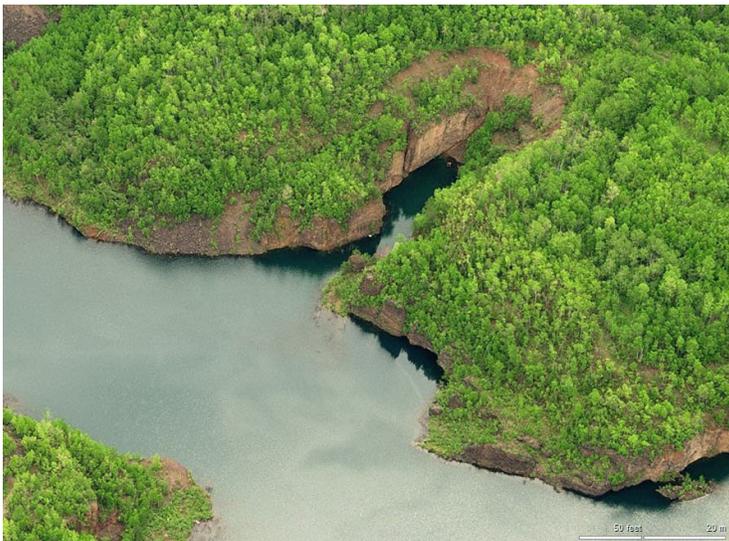
The pit is the closest landmark south of the city of eveleth. This location south of the city is in contrast to the current location of the cemetery (that is at capacity and currently expanding in the most conventional of ways).





Eveleth is a city in St. Louis County, Minnesota, USA. The population was 3,865 at the 2000 census.

U.S. Highway 53 and State Highway 37 are two of the main arterial routes in the city.



project emphasis

This project is driven by the theoretical premise of questioning what funerary traditions carry from one generation to the next and will continue to be honored or forgotten for future civilizations. The traditions of how the deceased were dealt with and the monuments that remain after to identify/honor the dead are points of interest for understanding a culture of a place and time. Another point of interest is the differing use of the land in cemeteries, what is a defining characteristic of land and death, architecture and death.



plan for proceeding

research direction

Research will be done to investigate and understand the concept of death in a civilization as to how it relates to an idea of treating the dead. Case studies in funerary design will show the approach to funerary architecture with the consideration of culture, and raise a new awareness for the architecture of the dead. The research will also include an examination of historical context of the typology and site location related to the project. Site analysis, and programmatic requirements will be informed by the case studies.

design methodology

The design approach will look at the research for thesis containing qualitative and quantitative data. More information will need to be gathered, through the process of interviews, graphic analysis, or first hand site visits.

design documentation

The documentation of this process is to be compiled by the use of sketches, drawings, models and notes. The final preservation of these products will be in a digital format sourced every week to ensure a quality of the design documentation. The final thesis product will be available through this book and a digital copy on a compact disc.

previous studio experience

2005-2006

172 - steven wischer - multiple projects of spatial understanding

this year's experience was intense with primary understanding of spatial design and experience.

2006-2007

271 - darryl booker - tea house, boat house, mountain dwelling

272 - joan vorderbruggen - waldorf school, dance studio

this year's experience taught me many things about a holistic approach to design as a student of architecture that builds models and creates design boards.

2007-2008

371 - steve martins - school for the inuit, children's clinic (aias completion)

372 - ron ramsey - church/bus stop/residence/apartment/green market/ public gardens, fur coat retail store

this year's experience gave me the confidence in my own understanding of architectural design and exploratory process.

2008-2009

471 - don faulkner - high rise

472 - steven wischer - train stop/hotel/restaurant/burberry retail store (semester in barcelona, spain)

this year's experience educated me in the complex nature of large scale design and how to work in colaberation with other designers.

2009-2010

771 - regin schwean - boat house/restaurant (aias competition)

772 - joan vorderbruggen -

program document



theoretical summery

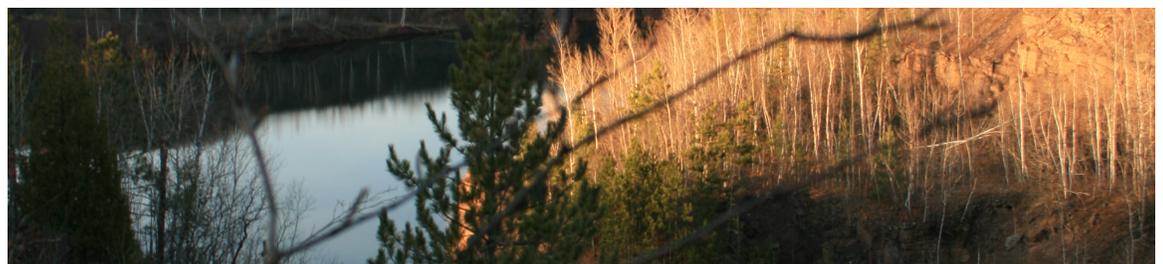
The idea of a culture in many cases is defined by the way it ritualistically cares for the dead. In American culture many of the rituals are currently being driven by the funeral industry. In many cases it relates back to the growing middle class in America, who wanted to emulate the elite lifestyle of the wealthy through the ritual of dealing with the dead. Mark Harris describes the situation in simple terms of supply and demand. If there is a demand for funerary goods at the cost of a working man's wages the industry will support those needs. This has caused a lack of consideration in American society in how to deal with the dead in a respectful manner that has ritual, honors the land, and questions a sense of consumerism that correlates with the funeral industry.

Caring for the dead currently involves the relation of the undertaker or funeral director. Do these relations influence the care of the dead? Is the funeral director doing his job for the gain of money or for the ritual of caring for the dead, often times a non-relative to the deceased? The family today puts lots of trust into the care of the undertaker and hopes that in return they will be pleased by the services they paid for. One of the services often included is the embalming preservation process; another, the purchasing of a casket. These services are discussed in qualitative and quantitative ways to understand the relation of care and of economics. Embalming process is highly influenced because of the advancements in chemistry. These

advancements cost money in research and invention. The writings show how many products are used in the embalming process.

Cultural respect of resulting ways to dispose the remains of the body is another topic that characterizes the culture of death in a civilization. The case of cremation and established modern burial are discussed. A new trend is also discussed; the trend of natural burials. This is not a new way of dealing with the remains of the deceased, it's a way that has been used centuries before and with the current American society leaning towards the promotion of living a "green" life, one can see why there is a promoting trend of a natural burial. Burial or cremations also have correlating precautions from the aspect of one's religion.

Opinions from people that have an interest in the cultural qualities of death are used to add another source of information which helps the awareness of tradition of death in our society. These people see that death in our modern society has had a lack of consideration and live by example to show how to create a tradition that will relate to ancestral death rituals. These rituals also respect the future generations that will follow. If these voices are heard and the tradition they create follows through to future generations, they have completed their intention to be honored by a tradition.



theoretical research

Death, and the art, architecture, and landscapes inspired by it, are not unworthy subjects for contemplation. Since mankind began to leave records and traces of his civilizations, death has exercised his mind to no small degree. The knowledge that every human being must die has undoubtedly contributed to man's desire to commemorate his existence by building monuments, erecting funerary architecture, and otherwise celebrating death. The records that civilizations and craftsmen have left in funerary art and architecture clearly express attitudes about the only experience in life we may be absolutely sure will come to us. (Curl, 1993)

Places for the dead throughout history have been of lifelong consideration. In Celtic times the dead had to be buried or they were believed to become vampires. Some ancient Greeks buried the dead in the floors of their homes; this practice was for the distinction between a space for the living and a space for the dead. (Zabalbeascoa, 1996) Six feet under. A term often used in American tradition in referencing the place of the dead. It represents a literal idea of death that the living can associate with. It is a place, a measurable dimension, a memory of the burial, a tradition that has lasted in American culture since the beginning of western civilization. Is this the proper tradition to honor the dead in an iron range culture of northern Minnesota?

Show me the manner in which a nation cares for its dead, and I will measure with mathematical exactness the tender mercies of its

people, their respect for the laws of the land and their loyalty to high ideal.

Attributed to William Gladstone,
British prime minister (1808-1898)

In the book *Grave Matters*, Mark Harris, a former environmental columnist for the Los Angeles Time Syndicate describes the multiple situations that Americans deal with the dead. Beginning with the story of a family that is notified of the death of their 18 year old daughter, it is described in great detail of the relation of the funeral director and Jenny's family.

Tom Fielding the funeral director believes that whatever solace a funeral director can offer the bereaved families comes less from grief counseling than from the ritual of a well run funeral service- something he has developed a reputation for in the small city.

As the process of the relation continues the Johnson family decides to have a traditional Catholic service with visitation. Fielding pulls out the package options for the services they could choose from that run on an average amount of \$4,000. With the visitation, Fielding requires the body to be embalmed with an additional cost of \$825, even though no law requires for a body to be embalmed. If the Johnson's would ask why he requires embalming, Field would have replied; "Embalming replaces body fluids with a chemical solution that slows the process of cell deterioration and retains the appearance

of your daughter. Without it she might not be presentable to your family and friends for viewing in a couple of days." If the Johnson's asked for Jenny to be put in a refrigeration unit until the viewing, it also would slow the process of decay and at a fraction of the cost of embalming. Along with the introduced \$4,000 for the service, there will be multiple fees in the process, from embalming, funeral service and burial of Jenny Johnson that will come to a total cost of \$12, 376. (Harris,) Funeral costs are one purchase in a life time that will cost more than \$10,000. This adds stress problems when grieving for the lost.

Economics play a significant role in the business traditions of dealing with the dead. The casket the Johnson family purchased was one of two million sold in this country each year. The Batesville Casket Company is the world's largest, with seven factories producing a casket every minute. For the demand of caskets follows a demand for the materials to build the casket. Jenny's damask rose model formed of bronze and copper, create a need of nearly twenty-seven hundred tons of copper and bronze annually. In comparison the annual need of steel for caskets is about ninety thousand tons. (Harris, 2007)

Economics and environmental issues of the embalming process have much to do with the chemicals needed for the preservation of the body. First the body is flushed with formaldehyde and phenol to slow the decaying. Next the sunken face structure is dealt with by stuffing the mouth with cotton until the desired look is

achieved and then the lips are glued shut. The desired face structure can also be achieved as in Jenny's case with mastic filling. This filling is either injected from the entry of the nostril into the cheek, or by pulling back the cheek and injecting from within the mouth. The body is now injected with a pink dye to create a flesh tone on the skins surface. Also at this time the blood is drained from the body to further slow the decaying. More fluids are to be extracted from the abdominal area and to do this a special tool called a trocar was invented in the mid to late 19th century. With a two foot long hollow needle it is inserted into the stomach and aspirates the fluids from the internal organs. With little left to do besides cleanup, Fielding is now 90 minutes into the embalment. A makeup artist and hair dresser have a hand in the final touches to create a Jenny that looks like the beautiful young girl who slipped quietly into a never ending sleep. The use of the embalming process seems to be lacking of an honoring tradition. It is a process that abstracts the human into a form that seems ideal and not honest to the dead or the living that have to cope with the loss of a life.

A study conducted in 1995 by the national funeral directors association states;
Today a large group of chemical products are made available to perform the embalming process. These products are used as arterial fluids, cavity fluids, co-injection fluids, non-arterial preservative (powders, gels, cauterants, aerosols and creams), supplement products (solvents, sealants, adhesives), cosmetic products, cleaning compounds (cleansers, soaps,

antiseptics, disinfectants, deodorizers) and other miscellaneous products (tissue builders, feature builders, etc.). For this study, about 600 different products were identified. (Harris, 2007)

As the embalmed body decays, all of the 600 foreign chemical products will seep into the ground, contaminating the soil and water. This is of great concern for the protection of our natural resources. Solutions have been created to pump these fluids out of the casket to be disposed of as toxic waste. Another issue of environmental concern is the drainage process of embalming. Like many of the embalming operations of today the waste fluids are drained into the public sewer system without treatment. In an average case of embalmment the preparer will run one hundred and twenty gallons of funeral waste down the drain for the waste to be filtered and treated by the public water treatment. Mark Harris describes modern ways to deal with the dead and avoid toxication to the land and water. These new ways of non-toxic dealing of the remains are considered and termed as natural burials. Natural burials include cremation, burial at sea, the memorial reef, the home funeral, a plain box, backyard burial, and the natural cemetery.

Cremation is a process of burning the body to reduce it to ash remains. Cremation in this sense is a speedily return to dust. These remains can be placed back into the earth, water or placed on a shelf. For many, cremation has a religious affiliation; to the Greek it was liberation of the soul from the material vessel. Interestingly, Pope Leo the Thirteenth banned the use of cremation

in the year 1886. He deemed it as a detestable abuse of the human body, and not until 1963 did the Catholic Church approve of the use of cremation. In Scandinavian cultures, cremation was often for the elite, releasing the spirits to the afterlife so the living would not be tormented by the spirits. The warriors had a different ritual of burning; set to sea on burning ships. Britain began to use cremation from the influences of the surrounding European cultures. The Anglo-Saxons called them bone fires from which we inherited the term bonfire. Cremations were common for the Romans, but they were only allowed to do it outside of the city limits for the fear of contaminating the air (Harris, 2007). All of these historical references are of interest for identifying the traditions of the ancestors of Eveleth because 68.6 percent of the inhabitants are of European descent (u.s. census bureau, 2000). In correlation of the current popularity, a cremation study done in 1999 compares European countries to the U.S.

Percentage of deaths resulting in cremation

Austria	21
Belgium	30
Czech Republic	76
Denmark	71
Eire	5
Finland	25
France	16
UK/ Great Britain	70
Hungary	30
Italy	4
The Netherlands	48
Norway	31
Portugal	14
Spain	13

Sweden 68

Switzerland 69

USA 25

(Worpole, 2003)

A reason for a large percentage of the UK to use cremation, is because of filled cemeteries and the costly expense of burial (since there is no need to purchase land for ash remains). The sociologist Tom Walter believes the small amount of cremations in the US is because of immigration. As American settlers came and died on the soil of a new homeland, it was a symbol of belonging to be buried within the earth. (Warpole, 2003)

Burial is perhaps the best way of setting down roots into a place. The process of cremation in a sense has the opposite effect of rooting oneself with the earth. This is best described by Andre Schwarts-Bart:

So this story will not finish with some tomb to be visited in pious memory. For the smoke that rises from the crematoria obeys physical laws like any other: the particles come together and disperse according to the wind, which propels them. The only pilgrimage, dear reader, would be to look sadly at a stormy sky. (Worpole, 2003)

Another possibility instead of the common modern burial or cremation is natural burials. American natural burials are going back to the roots of a pine box for burial. The pine box is a simple creation that can be made readily and locally for the dead to be contained.

One customer from Sioux City commissioned us to build him a simple, pine casket. Rope

handles, no finish, no hinges, no interior. Just a bare-bones box. He told me he wanted to make a statement : the casket is simply a vessel for another vessel that we're done with. There's no reason to get carried away.

Loren Schieuer,
Woodworker and coffin-maker

If burial is the most common traditional way of taking care of the deceased why do we embalm the dead and place them in elaborate caskets? If Jenny's family chose to do a natural burial it would have saved them thousands of dollars, which then would affect funeral industry, and a greater effect if many people saw a natural burial as a fit process of a return to the unknown. Another author, naturalist Aldo Leopold makes a convincing statement of the natural burial.

Dust unto dust... A rock decays and forms soil. In the soil grows an oak, which bears an acorn, which feeds a squirrel, which feeds an Indian, who ultimately lays him down to his last sleep in the great tomb of man – to grow another oak.

Furthermore, cremation is not as harmless as it was once thought to be. The process of creating ash is too quick in terms of chemical breakdown of the body which releases airborne contaminants, poisoning the air in miniscule amounts. The soil can breakdown the body in a natural burial to provide nutrients for the plant life above. (Worpole, 2003) Edward Abbey, who died in 1989, had lived connected to the earth; he was also an author and environmentalist. By example, he was buried in his sleeping bag under

a pile of rocks in Arizona. Prior to the example he spoke of death before death:

[after] the moment of death... we should get the hell out of the way, with our bodies decently planted in the earth to nourish other forms of life – weeds, flowers, shrubs, trees, which support other forms of life, which support the ongoing human pageant – the lives of our children. That seems good enough to me. (Worpole, 2003)

This is not a new concept in American way of living. The Native Americans had once used dead fish to fertilize their corn crops by burying them in the ground. (Harris, 2007) The idea of returning to the earth to help future generations should be an appealing societal idea. It is not costly in the process of placing the body to rest, nor does it cause any harm to the environment. Natural burials also resonate with the past as to how one returned to the earth since the beginning of time before the ritual of dealing with the dead.

Conclusively the natural burial appears to form a ritual that respects the dead. There is no embalming, and there is less money to be gained from the services currently provided for a modern burial by the funeral industry. There is less money spent on the services so the family has less of a financial burden. The future generations also benefit since there will be no contamination of the soil, water, or air. The living will have a better connection to the deceased and understanding of grief while providing the arrangements for the body. The burial is a way to create a connectedness with the land as well give a sense of history by the way the body is marked with a

ritual / architecture.



case study

woodland chapel and crematorium

type

chapels & crematorium

location

stockholm, sweden

major architect

erik gunner asplund

year built

1915-1920

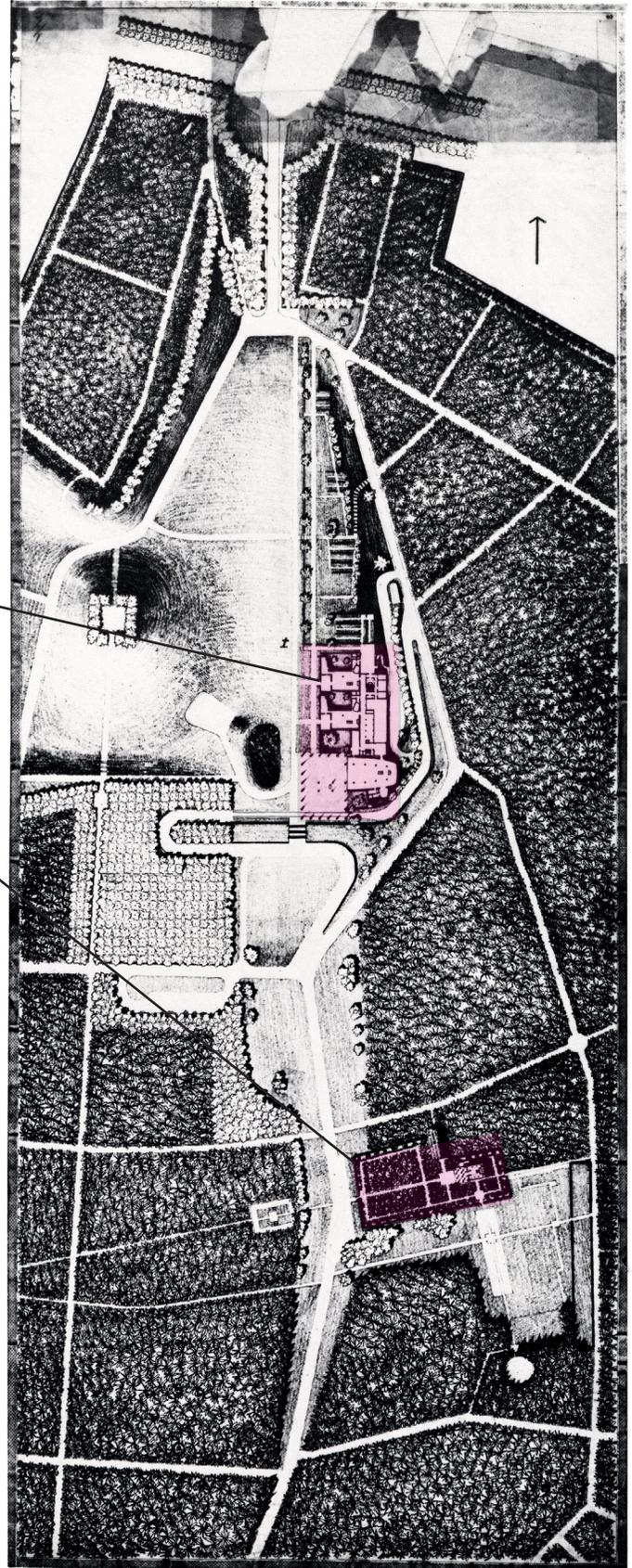
1935-1940

site plan

north
crematorium 1940

chapel 1920

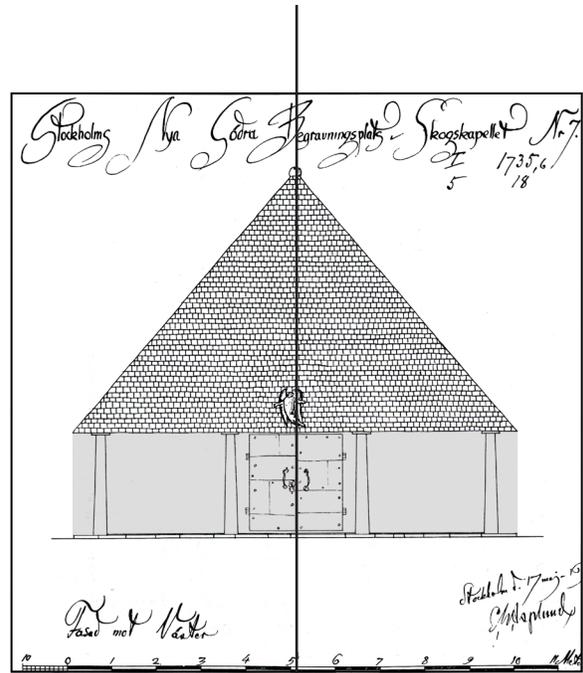
Woodland Chapel and Crematorium are considered architectural creations that resonate with people as high art. These two projects were designed by the renowned architect Erik Gunner Asplund and partner Sigurd Lewerentz for a 1915 south Stockholm cemetery design competition. Announced as the winner of the competition it was agreed he started design work on the woodland chapel until completion of the chapel in 1920. The crematorium was the last of his completed work in the years of 1935 -1940.



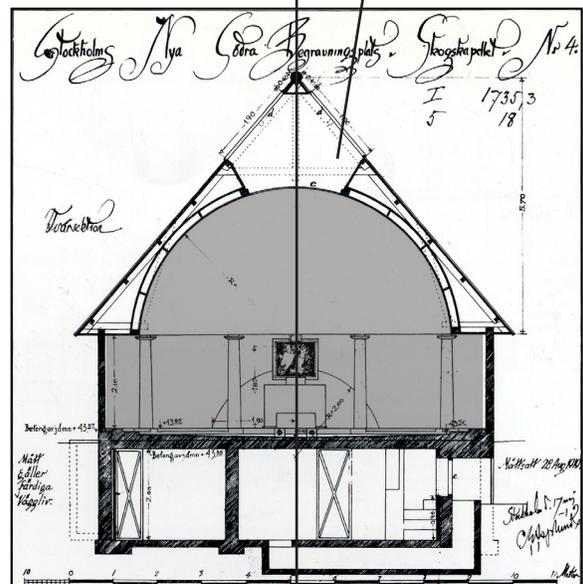
lateral symmetry

woodland chapel

Small in scale, stylistically the Woodland Chapel represents a sense of the vernacular and classical architecture of Sweden. The unique quality to the design of the chapel is its reductivist sense by using form and space as a pure Euclidian shape (Wrede, 1982). In the interior space all conventional layers to the architecture are not used, it is exempt of moldings and other decorative motifs to create a simple new experience to a vernacular and classical architecture. The plan is rectilinear and has a rich understanding of enclosed and open space. The roof of the chapel mimics the shape and feel of the surrounding fir trees, and neighboring the front of the chapel the earthen vault contains the caskets that are to be buried that day, strongly emphasizing the idea of death. Also in the front of the chapel is an open columned portico that is intended to be a gathering place for the mourning before and after ceremonies.

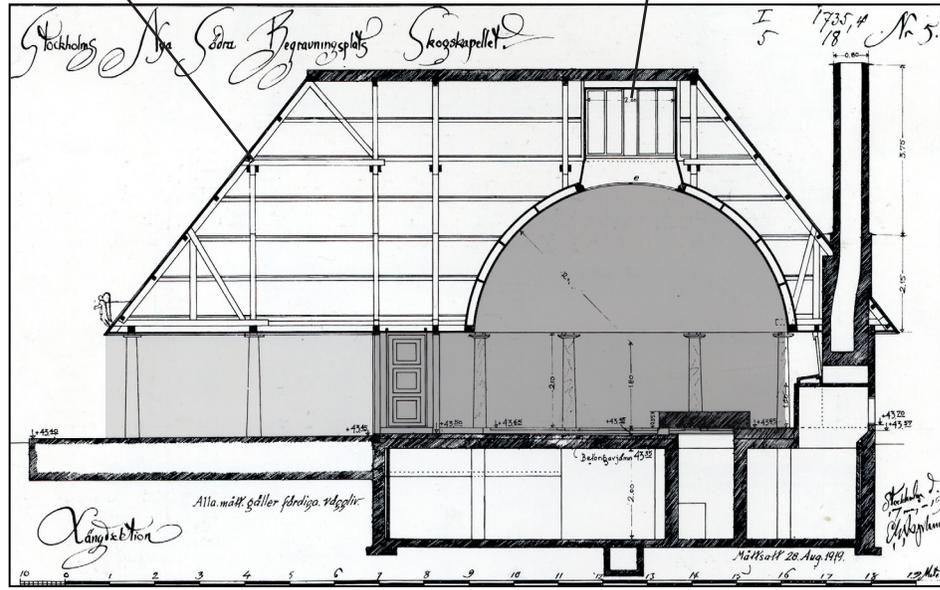


central skylight

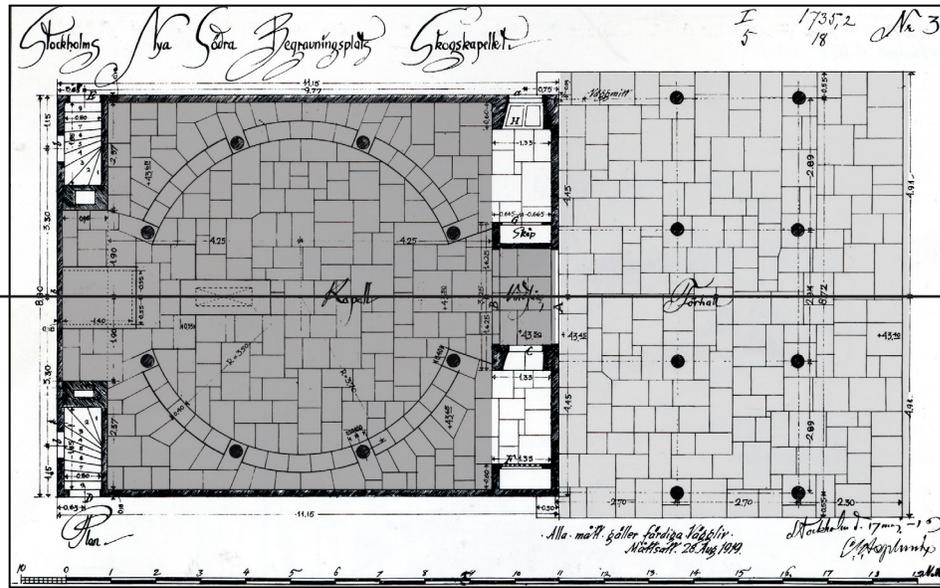


wooden structural frame

central skylight



lateral symmetry

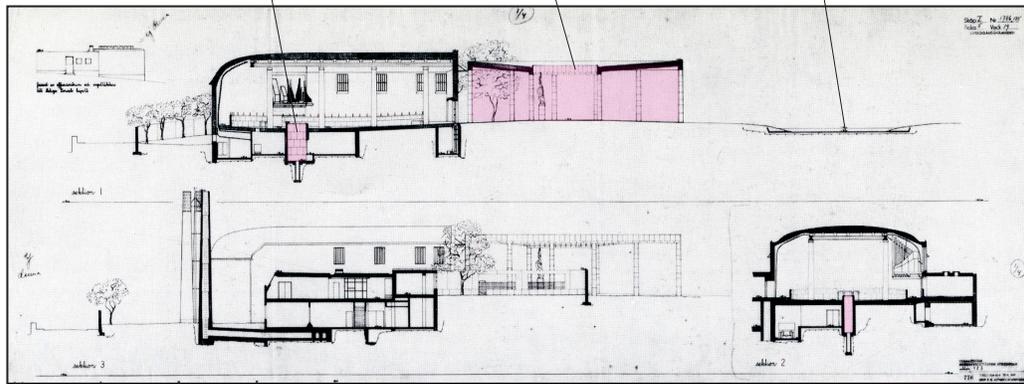




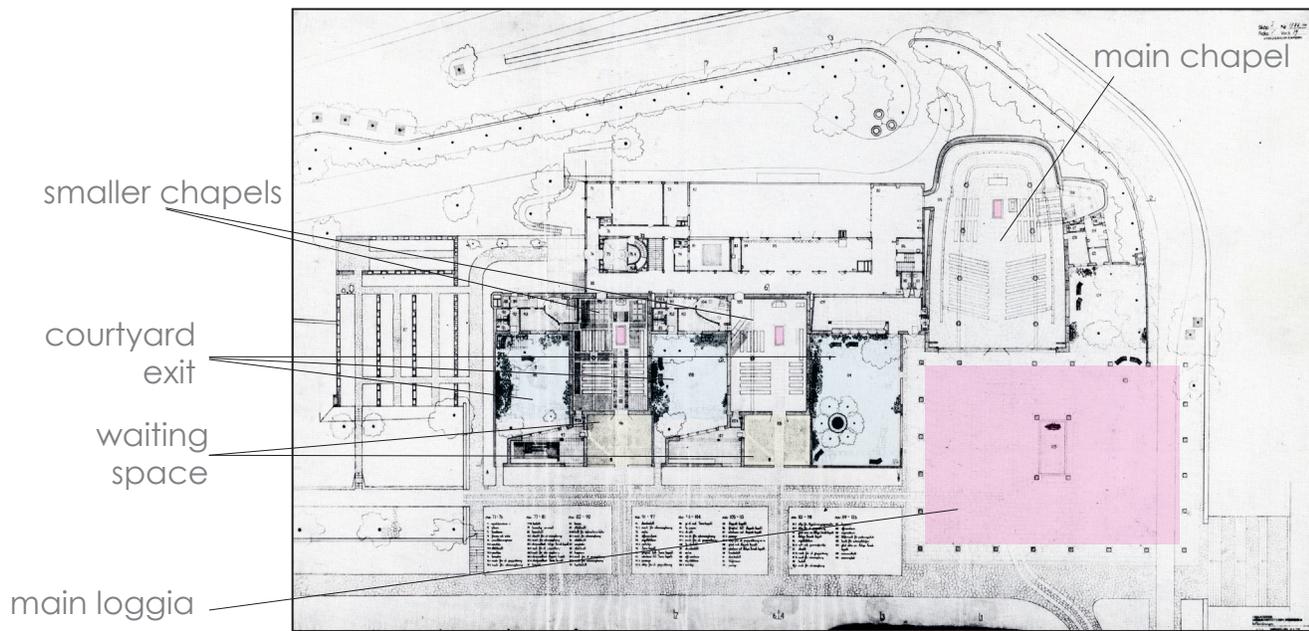
woodland crematorium

The crematorium on the site is comprised of multiple spaces to create a musical composition of spatial qualities. Like the woodland chapel it integrates itself into the landscape beautifully not to obtrusive and not to subtle. Another subtlety, Asplund uses walls in the architecture to organize the composition of space, a high wall in front of the small chapels serve to tie together the mass of the waiting rooms. Another low wall blends the building in with the forest backdrop and defines one edge of the open site. More walls are used to serve as backdrops for the graves down the hill. Countering the walls is a composition of columns that front the chapels to create an area of focus with the building, one other focal point is the large stone cross placed in the landscape. Wrede examines Asplund's challenge in the design, "the requirement of providing efficiently and sensitively for a large number of ceremonies every day posed a special functional problem. Asplund solved it by providing each chapel with its own Forecourt, interior courtyard, and waiting room with direct access to the chapels. Thus two sets of mourners never crossed

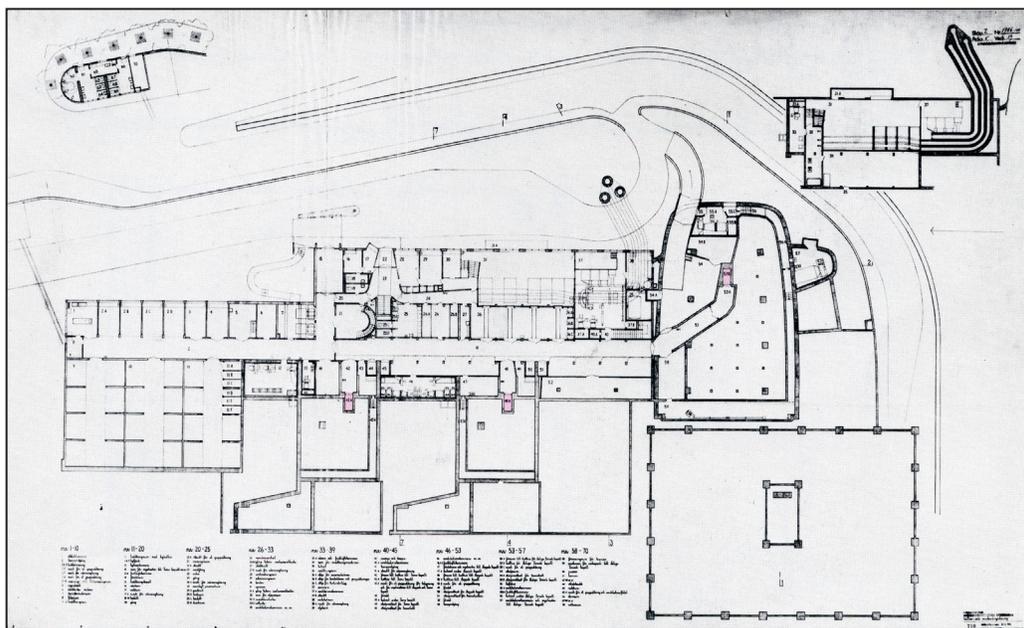
lift for body rectilinear oculus reflecting pond



main chapel sections



upper plan



lower plan

paths; one enters the chapel from the waiting room after another has exited through the main doors “. Asplund also uses the duality in the symbolism of death and birth. He uses a grassy hill to relate back to the ancient burial mounds of northern Europe or an earthen breast. (Wrede, 1982)

The two projects in their entirety blend with the landscape and cause a hint towards the sublime with both minimalistic and classical qualities. These combine to create a feeling of a romantic tradition that is found in Swedish landscape paintings of the 1890's by Prince Eugene. (Wrede, 1982) This seems to show how art can elucidate a quality of the landscape that an architect can use to understand the sense of place and experience of a proposed space.

woodland chapel and crematorium

type
chapels & crematorium

location
stockholm, sweden

major architect
erik gunner asplund



The Cloud , 1896

Prince Eugen

Swedish, 1865-1947

Oil on canvas, 119 x 109 cm

The intensity of the color, the path into the unknown and the cloud in the distance, together with the absolute stillness, can all be interpreted as symbols of a longing for the life to come.

case study

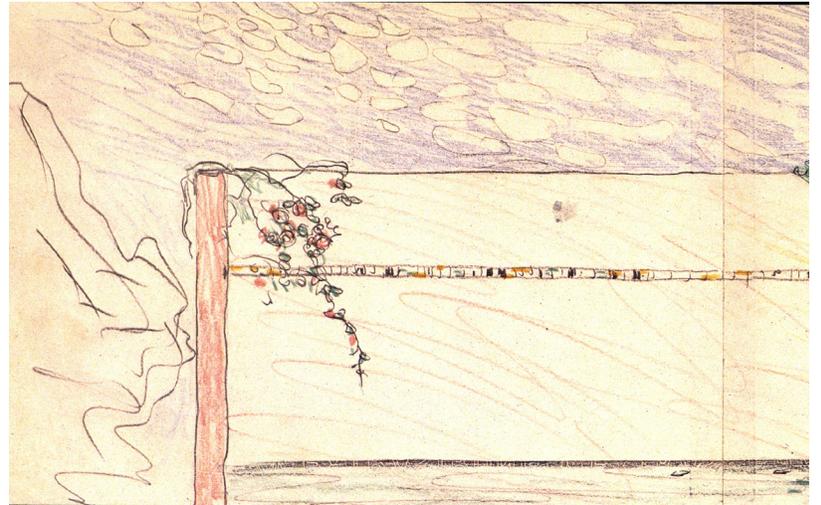
brion-vega

type
tomb

location
treviso, italy

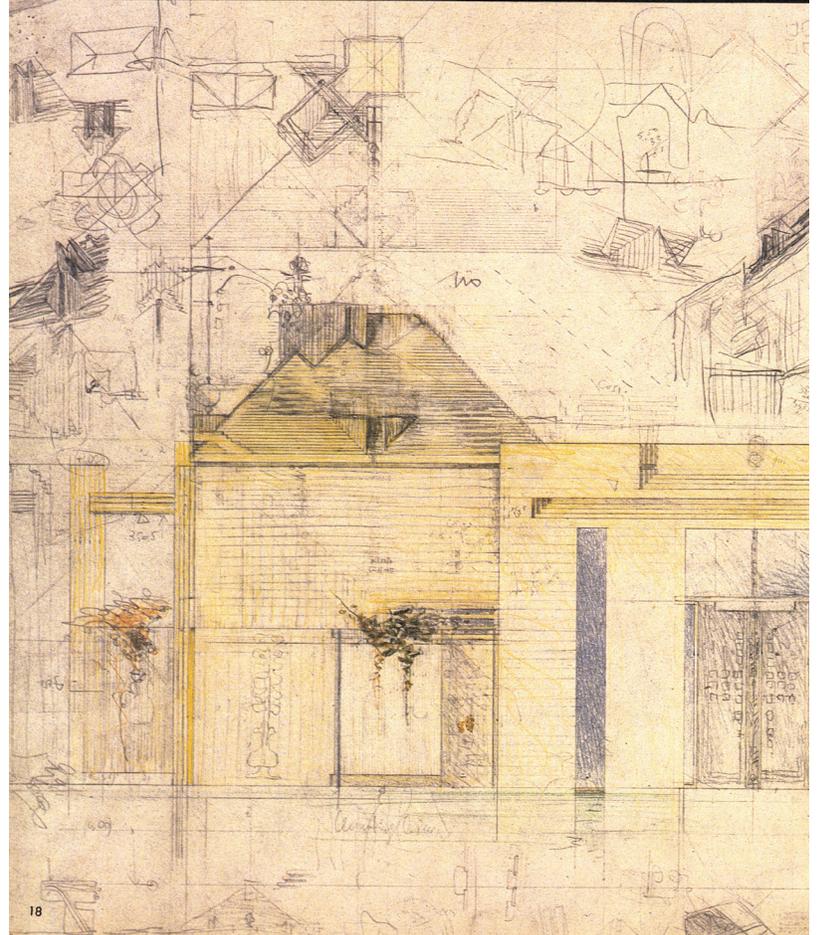
major architect
carlo scarpa

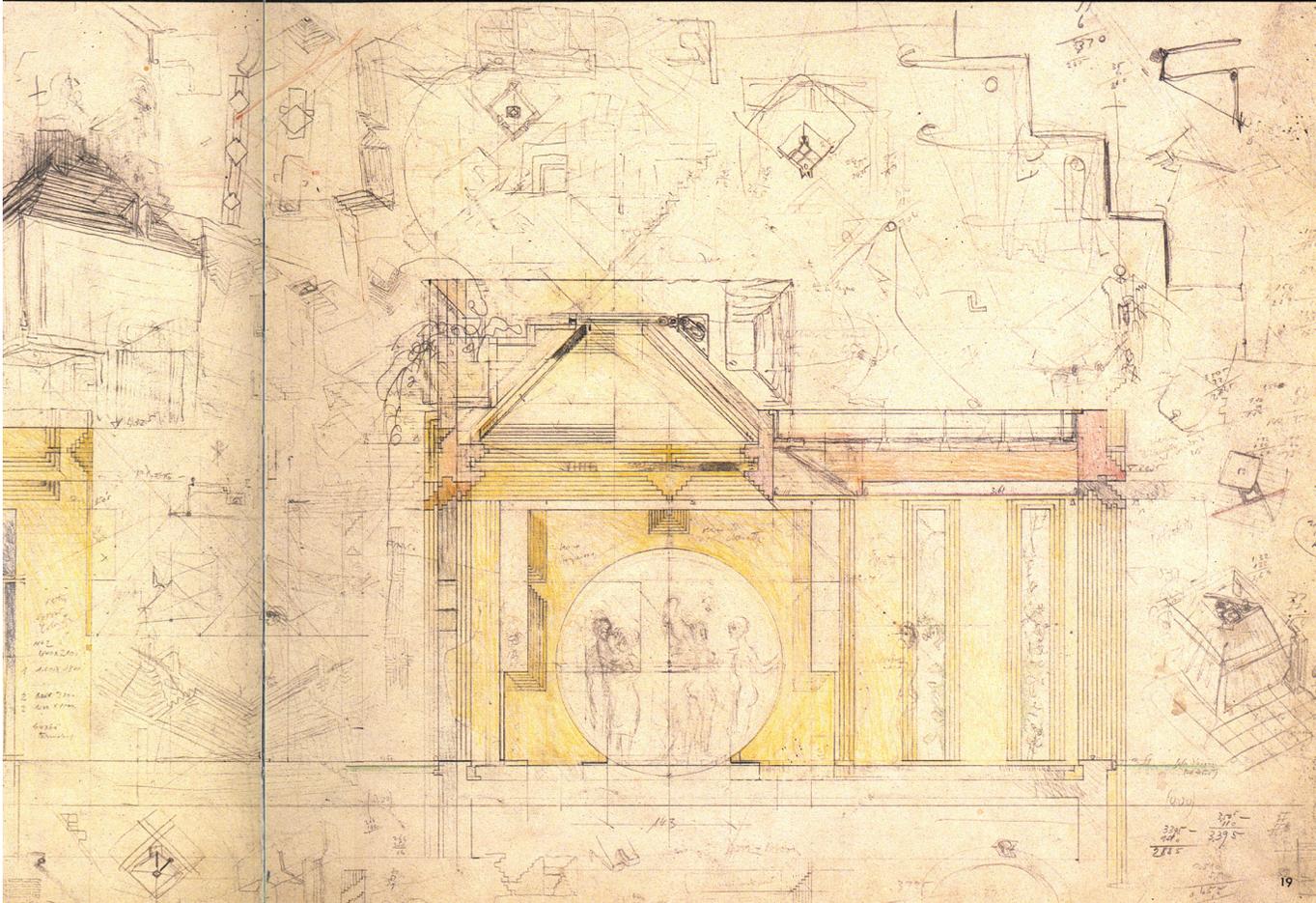
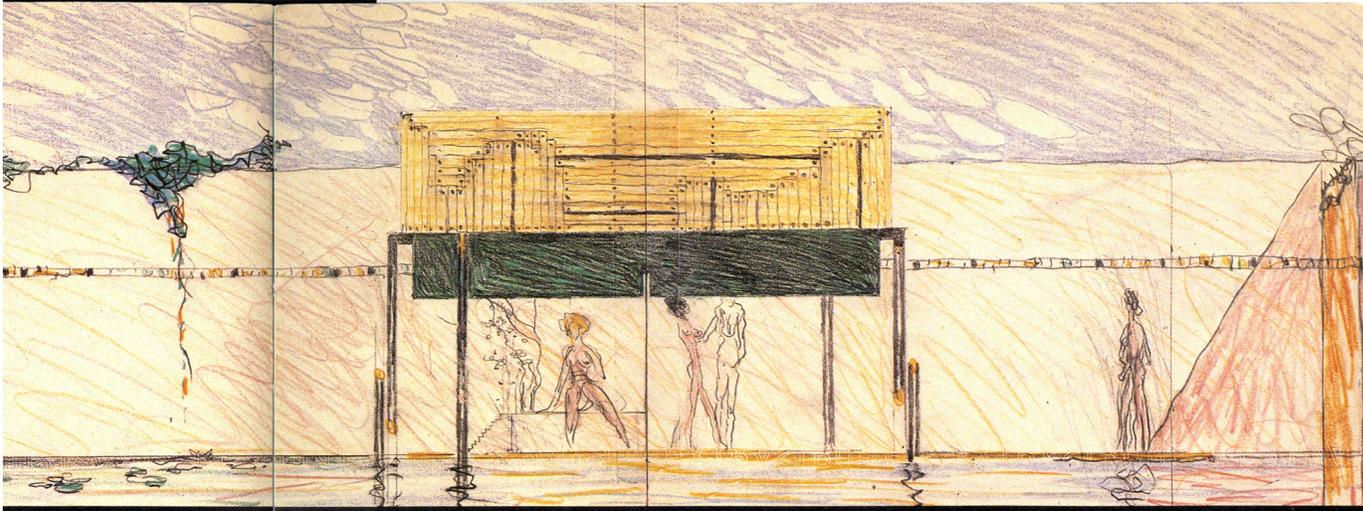
year built
1970 -1972



Drawing, on a playful mood, of the aedicule on the water

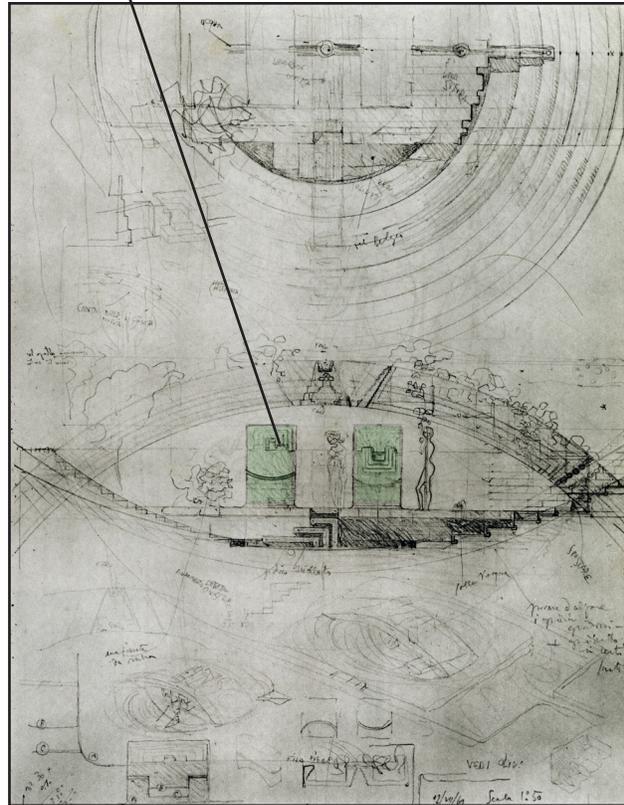
The chapel, working sketch





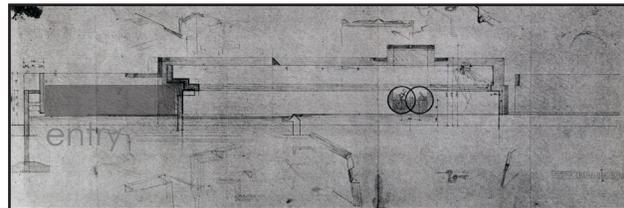
sarcophagi of mr. and mrs. brion

The Brion Cemetery in Treviso is a small necropolis for the Brion family. The architect Carlo Scarpa created a tomb, a chapel, gardens and pathways to make oneself aware of the approach towards death. He does this by implementing the idea of the human existence with the horizon and contrarily mirrors this familiar idea to question the existence of death. Scarpa stated that the structures were “the place for the dead in a garden, I wanted to show some ways in which you could approach death in a social and civic way; and further what meaning there was in death, in the ephemerality of life.” (Kemp, 2008)



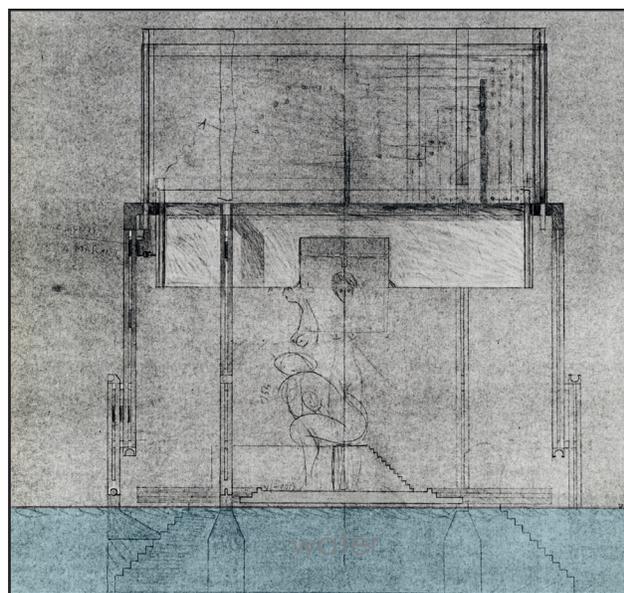
plan and elevation of tomb temple

The economic situation of this project for Scarpa was of great interest. The Brion family founded a successful industrial enterprise, Brion-Vega. “This allowed Scarpa to build a rare environmental composition where, if there is no show of wealth, there is an astounding complexity and density which can be found only at an ancient time, born through the stratification of successive interventions.” (Porioghesi, 1979)

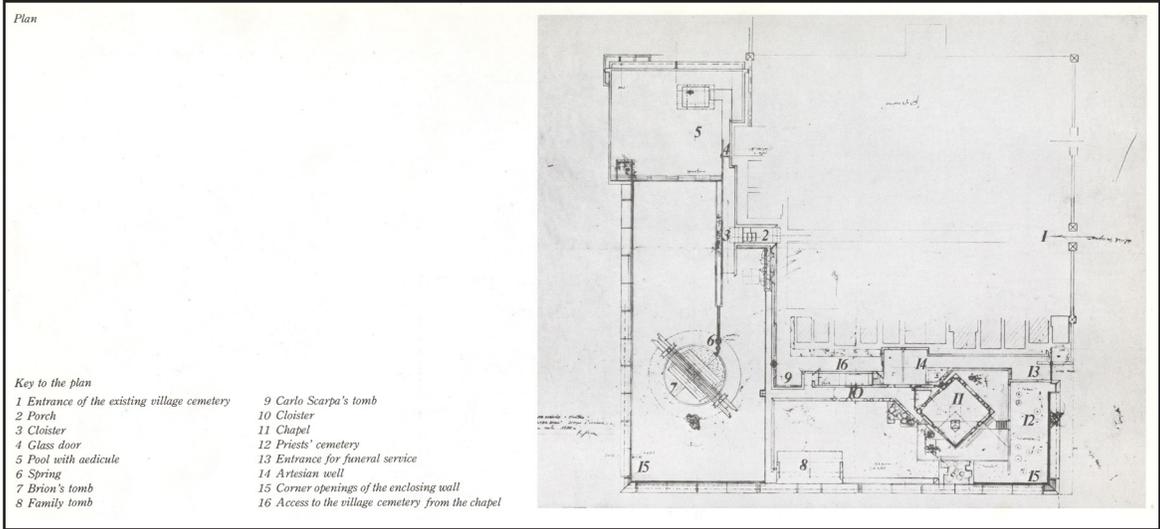


elevation of entry from cemetery

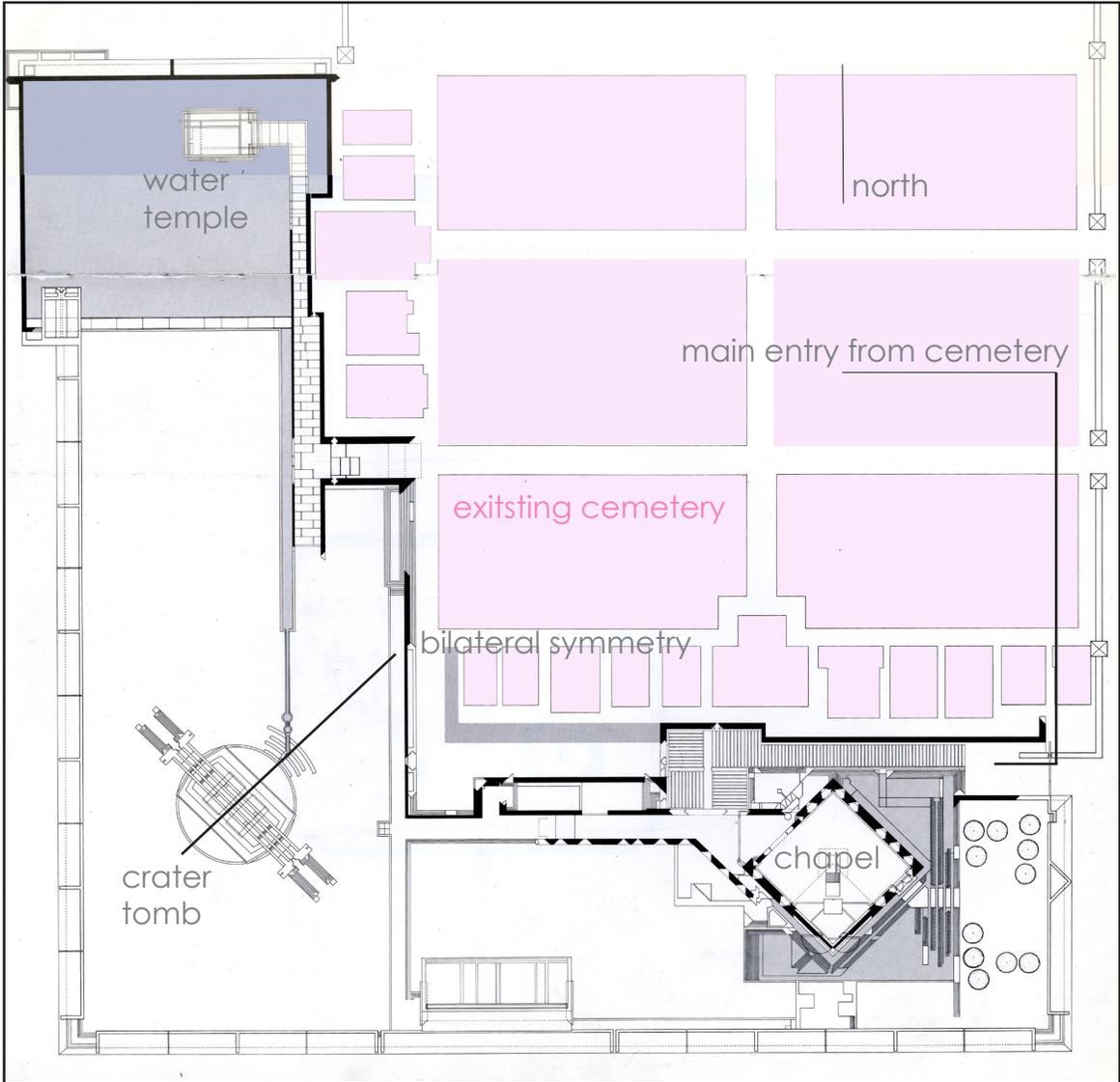
Prior to the Brion cemetery there was an existing small village cemetery. Today the Brion cemetery exists at the rising edge of this old village cemetery. It exists on the site with no intention of a hierarchy of space; this is for the visitor to have the sense of wandering with



smaller chapels



plan



site plan

no identified goal. At the end of the entrance there are two interwoven circles, one red, one blue. This is the beginning of the symbolism of dualities, this could symbolize life and death, together and separate, man and woman etc.. In Scarpa's studies of Buddhism he believed it to be non-dualism. "Light and shade, long and short... are different and are to be discriminated; but they are not independent of each other; they are only aspects of the same thing, they are terms of relation, not of reality. Conditions of existence are not of a mutually exclusive character, in essence things are not two but one". (Kemp, 2008)

At the center of the garden of the dead, there is a sunken crater for the display of the two Brion tombs framed by an arching bridge. The bridge shelters without containing and creates a more intimate experience when reconciling the deceased. Paolo makes the point that Scarpa possibly "reflected on the structuralist approach on the word arca (in Italian it means both ark and sarcophagus)." (Porioghesi, 1979) the tomb of the Brion family with the arch could have symbolisms of a bridge for a transcending journey, or an overturned ship that sails on a sublime plane.

The totality of the spaces created are stylistically post-modern, evoking a quality of complex forms, fantasy, and abstracted



historical styles. This sense that is created by Scarpa relates to the expressive qualities of the great Dutch graphic artist, M. C. Escher. The metamorphosis of architectural representation to object of shade and shadow to, plains of figure ground to, object as a single idea hints to the sense of duality, non- duality of Scarpa's creation.

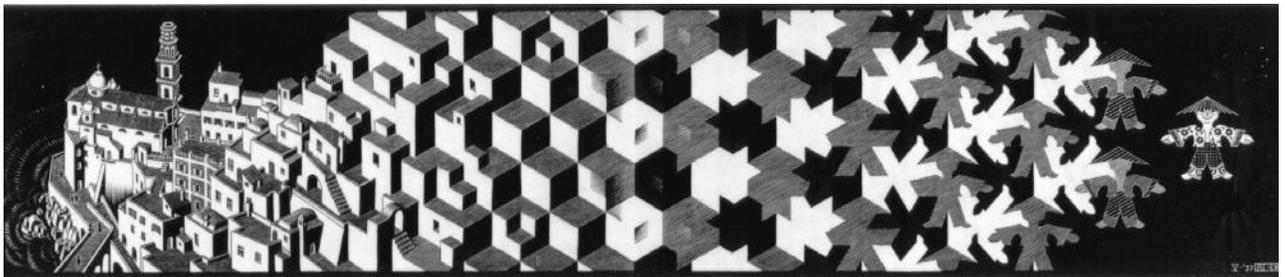
case study

brion-vega

type
tomb

location
treviso, italy

major architect
carlo scarpa



M. C. Escher
Metamorphosis I
1937
woodcut
19.5 cm × 90.8 cm

case study

igualada cemetery

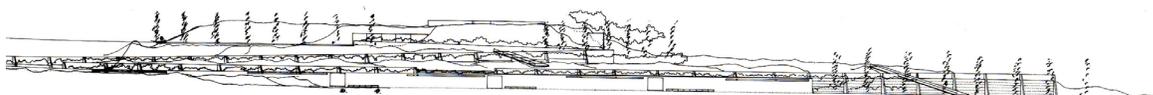
type
cemetery

location
barcelona, spain

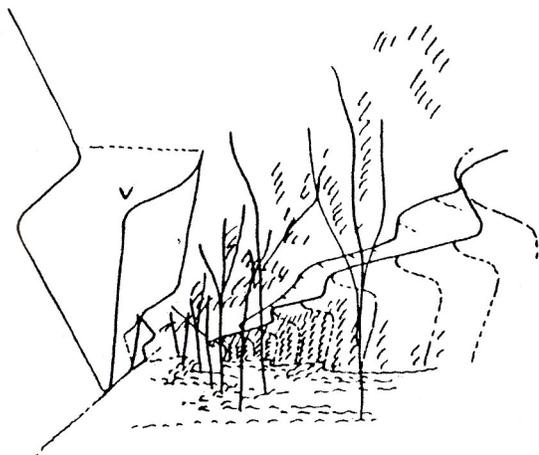
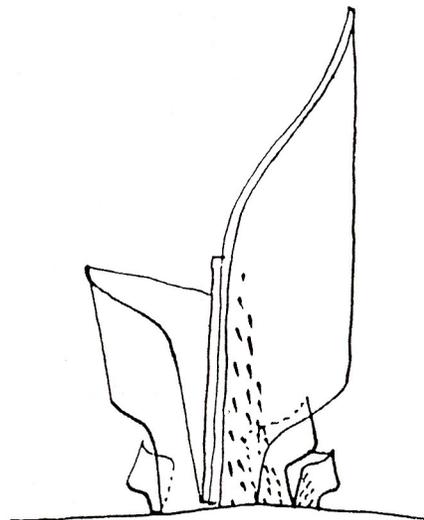
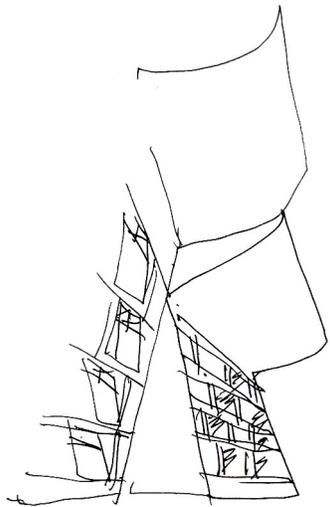
major architect
enic merallis

year built
1985 - 1994

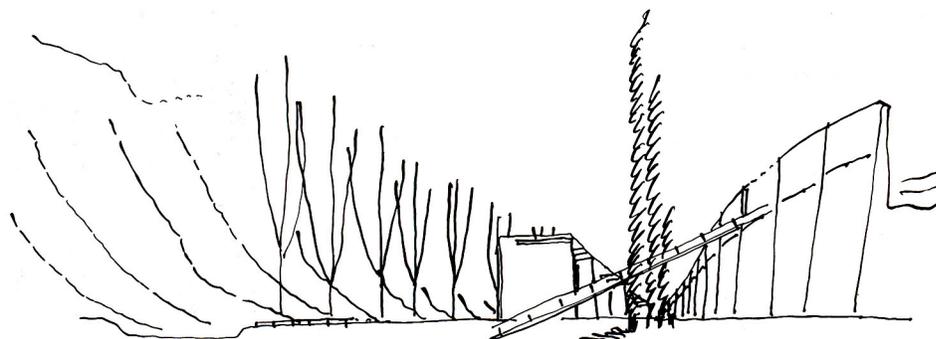
Igulada cemetery is located on the outskirts of Barcelona, Spain. Like the other cemeteries, Igulada cemetery integrates itself into the land with great character to be considered architecture as high art. The line between the constructed site and building almost seamlessly converge as one element in the landscape. This was only to be accomplished by the well respected Spanish architect Enric Merallis. Merallis' approach to the design was to create a machine to collect time, this meant that the intended architecture was open for the possibility of change. Enric reacts to the idea that architecture is permanent by saying, "to be permanent is contrary to existence. Things are forever changing." (Futagawa, 1999) After visiting this site one can see that the statement is true; the intent of the chapel space was not completed and still today the space is not finished. Still, the chapel is able to evoke a sense of silence and respect with its earth floor and hollow space.



site elevation sketch



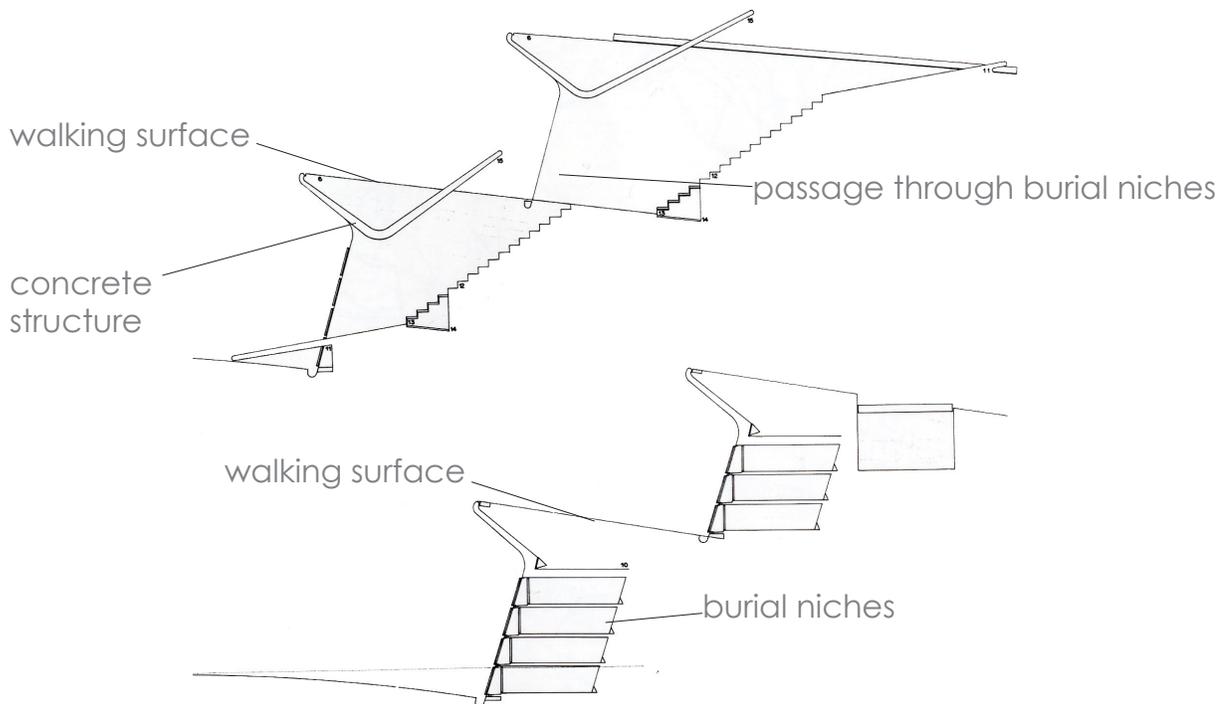
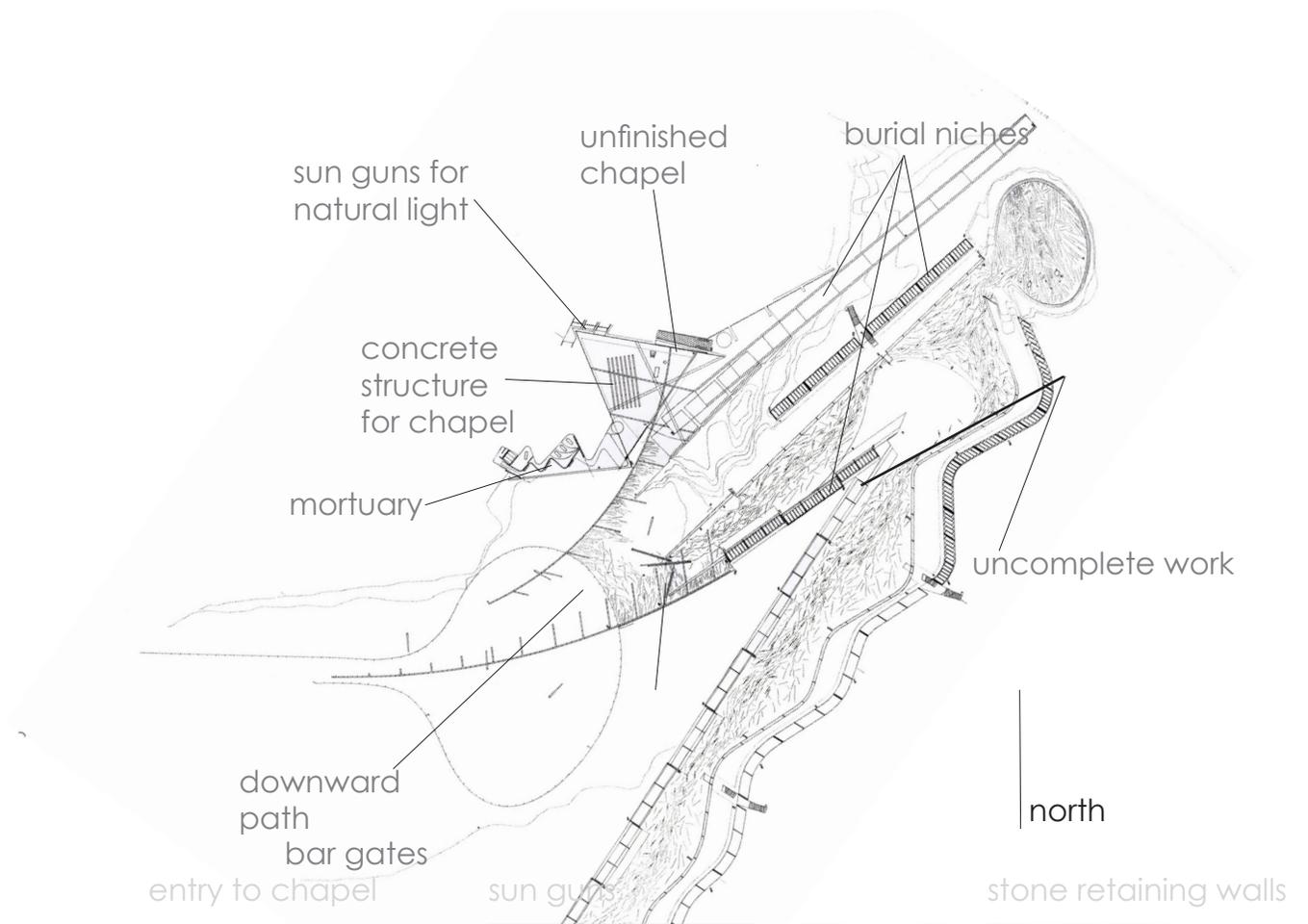
process sketches



The main spaces of the cemetery are not complex and flow with the landscape like a bead of water trickling down the back of your hand. First the entrance, with its sculptural steel bar gates; a chapel and mortuary just beyond; then rows of burial niches built into the hill side guide its visitors onward into the site towards the mausoleums built into the iron and stone retaining walls. The idea of creating the burial niches in the ground is in contradiction to the traditional Spanish, white walled enclosures with the dead contained within like an above ground shelving unit.

As stated before the chapel remains incomplete. The chapel could be a metaphor for the whole project, for it seems to summarize the story of the overall scheme of the cemetery. As a result of its initial construction being frozen for almost four years due to budget reasons, the chapel acquired the rare quality of becoming a ruin before existing as a building. The wooden columns that temporarily supported the structure had to be left at the construction site as work was further and further delayed. (Zabalbeasoa, 1996)





The complete design of the spaces in Igualada Cemetery are different in the qualities they express as far as the natural lighting, scale, and material textures, which creates a mosaic of senses to the visitor. These qualities show an interconnectedness to form an architecture of parts, which are dependent on each other, similar to how the hand is connected to the body and different from the foot. As the parts of the architecture age the site will become a place to collect time; nature will over-grow parts of the architecture, niches will fill and there will be a need for expansion; metal will rust and bleed into the earth to create a new connection to the landscape. To see the architecture as parts dependent on another, it seems as if Enric was inspired subconsciously by a fellow Catalan painter Jaun Miro. Jaun Miro is an experimental painter who uses color and form to create unique compositions similar to the artistic composition of Iguilada.



case study

igualada cemetery

type
cemetery

location
barcelona, spain

major architect
enric merallis

Joan Miró (Spanish, 1893-1983).
The Birth of Day III, 1964.
Oil on canvas. 162 x 130 cm

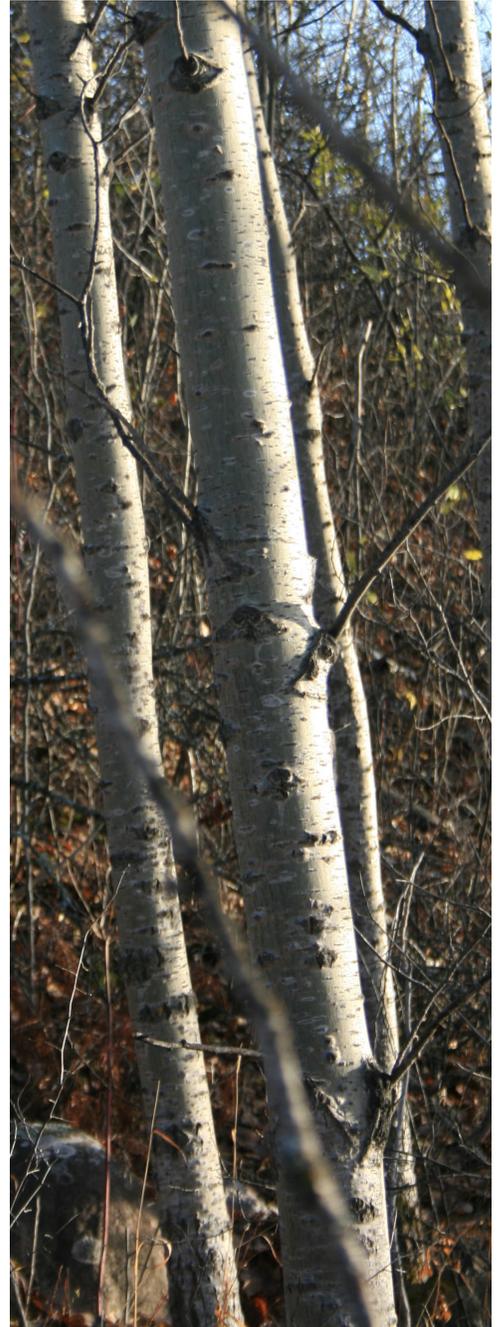


case study summary

The three case studies of funerary architecture represent a small portion of cemeteries built within the last one hundred years. These case studies as a series show how to programmatically set up architecture for the dead when designing a cemetery. Since a cemetery is a typology that deals with the questioning of the function of the tradition of placing the dead in the earth, it is interesting that each case deals with the dead in different ways. All of the projects have some source of tradition from the past and also create a totally new experience to the typology. The new experience with the test of time will prove its lasting quality against a civilization.

In the case of the Woodland chapel and crematorium it shows how the functioning sequential layout of the spaces allow for a mourner to go through a process that starts and journeys onward for a special ceremonial experience. The Brion-Vega and Iguilada cases allowed for the journey of the mourner to be that of a wanderer. It seems that in the design of the ceremonial service that the concept of a given progression is beneficial to the mourner, it allows for them to go through stages of mourning and makes the intent of honoring the dead more deliberate than accidental.

The remains of the living are of a central focus to the design of the cemetery. Earthen burial is a main proponent in the case of the Woodland cemetery, contrasting earthen burials the tomb of the brion family is above ground in sarcophagi. With a blend of the two cases, Iguilada creates a burial niche in connection to the earth; it is not fully contained within the earth nor is



fully above ground. The three presentations of dealing with the dead are all considerations that need to be in connection to the design of this thesis. In relation to the people of Eveleth the idea of earthen burials will be a primary proponent, being that 38.1 percent of the population is of Scandinavian descent.

The sites of each case vary from large scale master plans to the small village cemetery with a family's tomb beside it. The woodland cemetery is vast with rolling open land and also a forest of protecting fir trees. Iguilada is a descending rocky exposure of the earth, since it was previously a gravel quarry. The flat farming land of northern Italy surrounds the small site of Brion-Vega which creates a beautiful setting for the questioning of the human and the horizon. The vastness of the pit in Eveleth, Minnesota contains characters of the Iguilada cemetery with its rocky rugged sense from the excavation of harvesting earth. The site also shows qualities of the woodland cemetery with the open field spaces and densely wooded areas. By the use of these case study sites, it has called attention to the dealing with death in different forms of landscape and will make the design of the asylum more deliberate with these different qualities of the pit site of Eveleth.

The pits site in its technical issues is highly informed by the land issues of the Iguilada cemetery. How to dig into the earth? At Iguilada the earth was partially dug out and replaced to create a retaining wall that converges into the descending land. Since Eveleth's site currently contains large hills of excavated stone, this idea could possibly be used in a similar fusion.

Historical context

When we find a mound in the woods, six feet long and three feet wide, raised to a pyramidal form by means of a spade, we become serious and something in us says: someone was buried here. That is Architecture.

Adolf Loos, *Architecture* (1910)

A mound of earth, a headstone, pyramids, cenotaphs, tombs, mausoleums, etc... have all been ways to create architecture for the dead. Since the first ritual of a culture dealing with its dead in a particular way there has been architecture for the dead. This is the context which supports the case of questioning the architecture for the dead. Today if planners, architects, and landscape architects do not take seriously the issue of how to create new kinds of cemeteries in our modern cultural fabric we will be creating civilizations lacking in memory of tradition.

The case study of the Woodland Cemetery in Stockholm is an exception to the idea of a cemetery lacking in the creation of a new cultural memory. This cemetery is one of the greatest designs in architecture for the dead. An architectural historian, Marc Treib, states that the Woodland cemetery is "the most perfect and profound modern landscape on the planet" (Worpole, 2003). This is a bold statement in terms of all other landscapes that are designed. The Woodland design should provide inspiration for new cemeteries being built, as the cemeteries designed by Pere-Lachaise were for

its historic era. Pere-Lachaise created the idea of the “garden cemetery”, a majestic landscape for the dead to rest within. Mark Harris describes in detail the products of Pere-Lachaise’s design in Boston at Mount Auburn in 1831, “the new grave meadows, ponds teeming with fish and bird life, babbling brooks, and, typically promontories that afforded dramatic vies of the nearby city. Undulating networks of foot and cart paths, well shaded by tall, native timbers wound throughout.” (Harris, 2007) As such a beautiful creation these garden cemeteries would have inspired many great American parks, the only difference was that they contained no graves. The garden cemeteries were referred to as rural cemeteries, they were areas for city people to escape and use the land for recreation.



By the end of the century the American rural cemetery was fading away into what is now known as the park like “forest lawns”. For example the filled cemetery of Eveleth is a forest lawn cemetery. These types of cemeteries often have a chapel for services and a garage to store the equipment that is used to care for the lawn. The new ground maintained some of the pastoral character that marked its predecessor, but the natural features assumed a well-pruned, orderly look that could be replicated on any property, anywhere. (Harris, 2007) This happened in a large application to the new developing west in America. Harris points out that the expansive mowed greens replaced the rural cemetery and flattened the great ornamental monuments that marked a grave, and were turned into flat stone markers with no character to “honor” the dead, mostly for the ease of mowing the lawn.



In a way American cemeteries are starting to lose the connection to memory. The sense of place is lost when the cemetery is paralleled as it dots the varying landscape of America. There is no sense of the connection to the land by which one rests

in a never ending sleep. “This is considered a bastardization of the rural model, a banning of real nature from a funeral Eden”, says Billy, the operator of a natural cemetery. He continues to speak about the embalming process and the poisoning that happens to the land. His focus is to plant native plants on natural burials, “our goal is to restore the land, and we are using burials to do it”. (Harris, 2007) If we are to restore the land and create a sense of place with the cemetery we should look to a culture and the special qualities of it.

The place of Eveleth, Minnesota is a place of stone that iron is extracted from. It dominates the sense of place when driving around the Iron Range of northern Minnesota. The chosen site on the south side of Eveleth is a defining landscape, a pit once used to extract the stone taconite. Now this site has become a natural oasis near the city, a perfect choice for one of Eveleth to set roots into the earth by the return to dust. What relevance does the sense of stone have to do with dead and the culture of Eveleth? Oswald Spengler in the book *The Decline of the West*, makes out a statement made by the anthropologist and sociologist Bachofen; “Men have built for the dead, before they have built for the living, and even as a perishable wooden structure suffices for the span of time that is given to the living, so the housing of the dead forever demands the solid stone of the earth. The oldest cult associated with the stone that marks the place of burial, the oldest temple building with the tomb structure, the origins of art and decoration with the grave-ornament.

Symbol has created itself in the graves. That which is thought and felt and silently prayed at the grave side can be expressed by no word, but only hinted by the bodying symbol that stands in unchanging grave repose." The dead strive no more. They are no more Time, but only space – something that stays (if indeed it stays at all) but does not ripen towards a future; and hence it is stone the abiding stone, that expresses how the dead is mirrored in the waking consciousness of the living. The Faustian soul looks for an immortality to follow the bodily end, a sort of marriage with endless space, and it disembodies the stone in its Gothic thrust system till at last nothing remained visible but the indwelling depth and height–energy of this self-extension."(1926)

This identity of stone is connected to the future respect and lasting memory of the dead and can be applied to the society of Eveleth. The social identity of architecture of the dead in Eveleth in relation to the pit is informed by the economic reliance on the industry of iron mining. The site is currently owned by the Cleveland Cliffs mining company which has been operating open pit mines in the surrounding area of the



city. The processing plant branch for the region is called United Taconite. Previously EVTAC Mining Company, the operation produced its

first pellets in 1965 and was idled in May 2003. A unique aspect of this business deal is that Cliffs and its Wabush Mines gamble by entering into pellet sales and trade agreements with Laiwu in order to optimize distribution efficiency. In December 2004 it increased production by one million tons per year, bringing the mine's annual rated capacity to 5.2 million gross tons per year. (Cliffs, 2008) The effect of the increased operation shows in the topography of the surrounding landscape and in the economics of the city. Now the United Taconite plant employs 486 people of the Eveleth community. This means that twelve percent of the population is employed by the mining industry. The other seventy eight percent of the city's population cannot help but have their lives influenced by the mined landscape.

This influences the people of Eveleth and creates a specific identity to a landscape in time. The site is a perfect asylum for the dead. It connects the people to naturally root themselves in the land. Providing meaning in the landscape and the ritual related to dealing with the architecture of the dead. This will create cultural memory in the society and set it apart from other places in America.



qualitative **site analysis**

narrative

The site of the open pit is something of a majestic beauty. Its sense to the visitor is dreamlike, since it is devoid of human inhabitation and surreal with its exposure of the rocky innards of the earth's surface. In areas the rocks seem to be the skin of the earth that was cut by a large knife; it seeps orange, red tones out the iron ore filled stone which looks like a bloody scab only more beautifully expressed with time. The views at the site captivate the visitor with a mosaic of visual senses from the quality of light, extreme topography, hard to soft natural materials; all of this is in balance around a connection to the surface of the water reservoir at the base of the pit. There is no view more important at the site since there are no unsightly characters in the surrounding escape into nature. One's eye does tend to focus on the water as the central focus on the site. This is possibly because quality of reflection or movement which contrasts dense woods, open grassy areas, and enormous piles of excavated earth.

There is a sense of respect for the site when going to visit. Since I knew that the land is currently not open to the public it is easily assumed that the site is a wild life preserve of northern Minnesota. I went into the site assuming in fear that we would find a bear on the preserve, only to be eaten by it like "grizzly man". This fear was intensified when arriving at the water cul-de-sac. At the top of the cliff was a rock symbol in formation of a cross and two peace signs. This was our first encounter of human inhabitation at the site. I assumed that these were markers of a person killed by

bears. During the second visit to the site this fear decreased; fifteen minutes into the visit we saw a porcupine, this was the only wildlife seen on site.



The possibility of escape from the bear would have been easy in certain areas of extreme topography. Since the site was dug up the water reservoir is surrounded by cliffs of earth which would seem to make it difficult for a bear chase since the bear would roll down the steep embankments. To understand the sense of scale in measurable terms, the second visit I brought a 100 foot long tape to measure the cliff face at the water cul-de-sac. This measured to an astounding eighty feet, with more than twenty feet of retained earth above my position.

As I walked to the cul-de-sac by entering the site from the south side of the city, the only two built structures that I passed were an old cast foundation with no recognizable characteristics of what the building was that previously sat here. The other structure was the old, long ago abandoned rail road for the shipping of the excavated earth. These structures and the amount of decay they express show to the visitor that the site has long been forgotten.

This abandonment of the site has allowed for the natural vegetation to recover the landscape. Trees and other plants have even started to grow in the rocky embankments of the reservoir. There is no patterning in relation to where the open areas of grassy fields are verses the densely wooded land. Nature just happens; it grows and dies in cycle.

Water is also a natural resource that is taking its place in the site. Previously a dry hole in the earth the pit has now become a retaining system for water runoff and ground seepage. In areas on the north embankment you can hear soothing sound of the water trickling into the reservoir. The water in the reservoir has an eerie sense to it, with the subtle rust stained hue and the clear quality that allows you to see beyond the surface into the depths of the water.

To see the depths of the water the light quality has to be crisp and cool. The color of the light seems to be effected by the presence of the sight. It feels as if its hue is in the rusty field tones of the material that absorbs and reflects light. The green tones of the site absorb too much of the light to which makes the eye focus on the rusty earth tones. This makes the light feel warm in relation to a red colored sky. With the reflections of light off of the surface of the water at times of the day and depending on the position of the person, the light can be very intense. In contrast to the intense reflection the site can be dull in the setting sun of the cul-de-sacs.

In the cul-de-sacs another quality is the protection from the winds that sweep through the open fields and reservoir. During the first visit to the site the wind was not evident the water had a near perfect reflection of the environment. The second visit to the site the power of the wind was activating the site by creating white capped waves on the water's surface.

Distressing characteristics of the site create a language of a cycle of decay. The rotting trees, rusting earth, and detrainning structures all add to the distressing qualities. These qualities are more closely related to the micro system of the site. As a macro system some of the distressing qualities can be found in the city from the lack of care of certain buildings. The distressing qualities of the surrounding area are evident in the mining of the iron range.

The Iron Range of northern Minnesota has a beautiful landscape that has been created by man. This intervention has allowed for beautiful accidents to happen once the mines are abandoned and left for nature to consume the land and disguise the human intervention. Eventually nature will be a powerful source and reclaim the landscape of the Iron Range like the reservoir site south of Eveleth Minnesota.

quantitative **site analysis**

siols

The large scale of the sites surface of the soil classifications are made of varying types of soil; loam, loamy clay, clay, and cobble. The earth structure of depth to bedrock is 40 - 60 inches. This makes the site a good useable site for construction.



utilities

The site currently is lacking in public utilities. The only utility on site is the evidence of the power lines that run along the edge.



vehicular traffic

There are no types of vehicular traffic on the site. The site is currently fenced off from the public and the pit is no longer trafficked by large machinery for mining.



pedestrian traffic

Pedestrian traffic on the site is limited to the use of a nearby public trail that follows the powerlines.



topography

Slope on grade varies drastically. The north side of the site is 0-12% slope until you reach the pit. The embankments around the water reservoir, range from a slope of 50-100%.

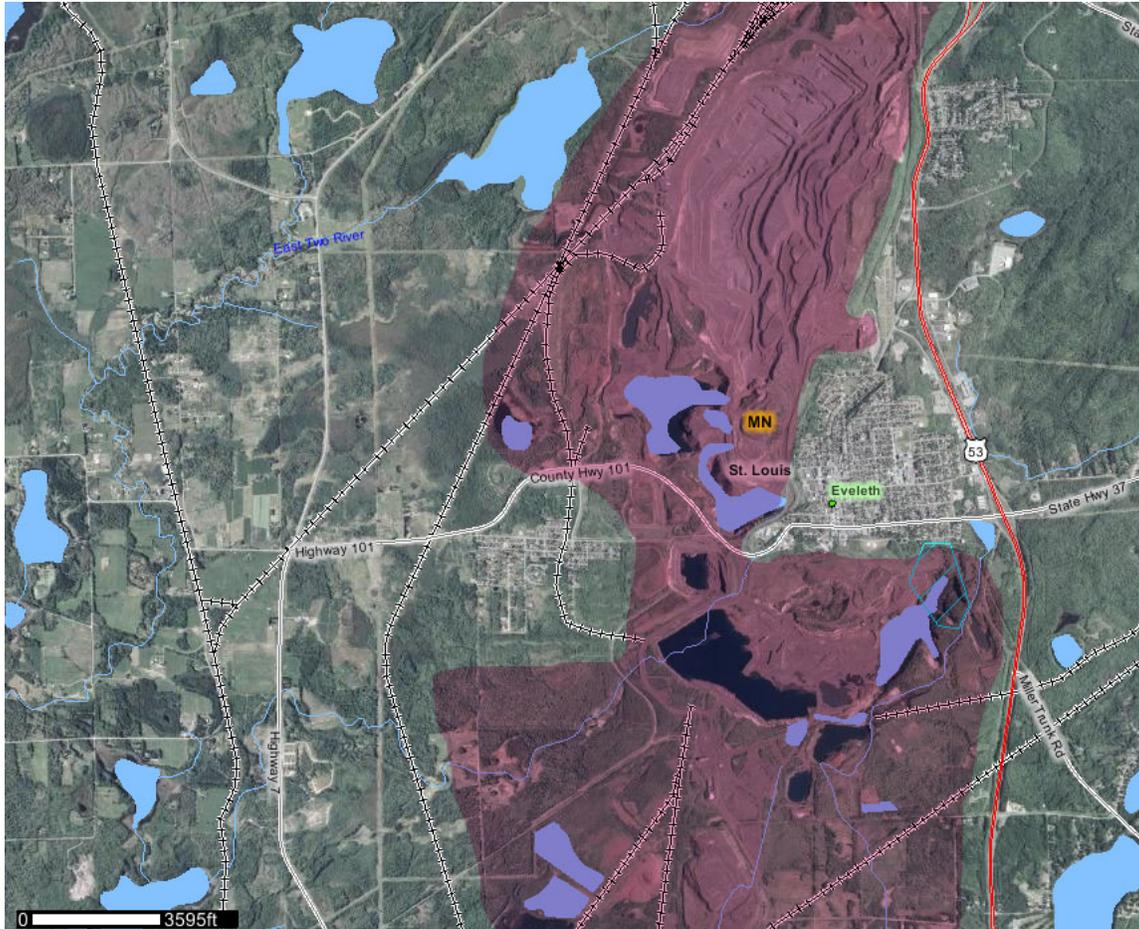


site character

The grassy and wooded land of the earth's surface show signs of erosion on the edge of the embankments. The embankments show signs of gravel slides from the well drained embankments. Dead trees on the site are a common sight where there are cracks in the earth's surface from blasting for the mine. A subtle sign of drainage erosion is the rusty looking water.



maps

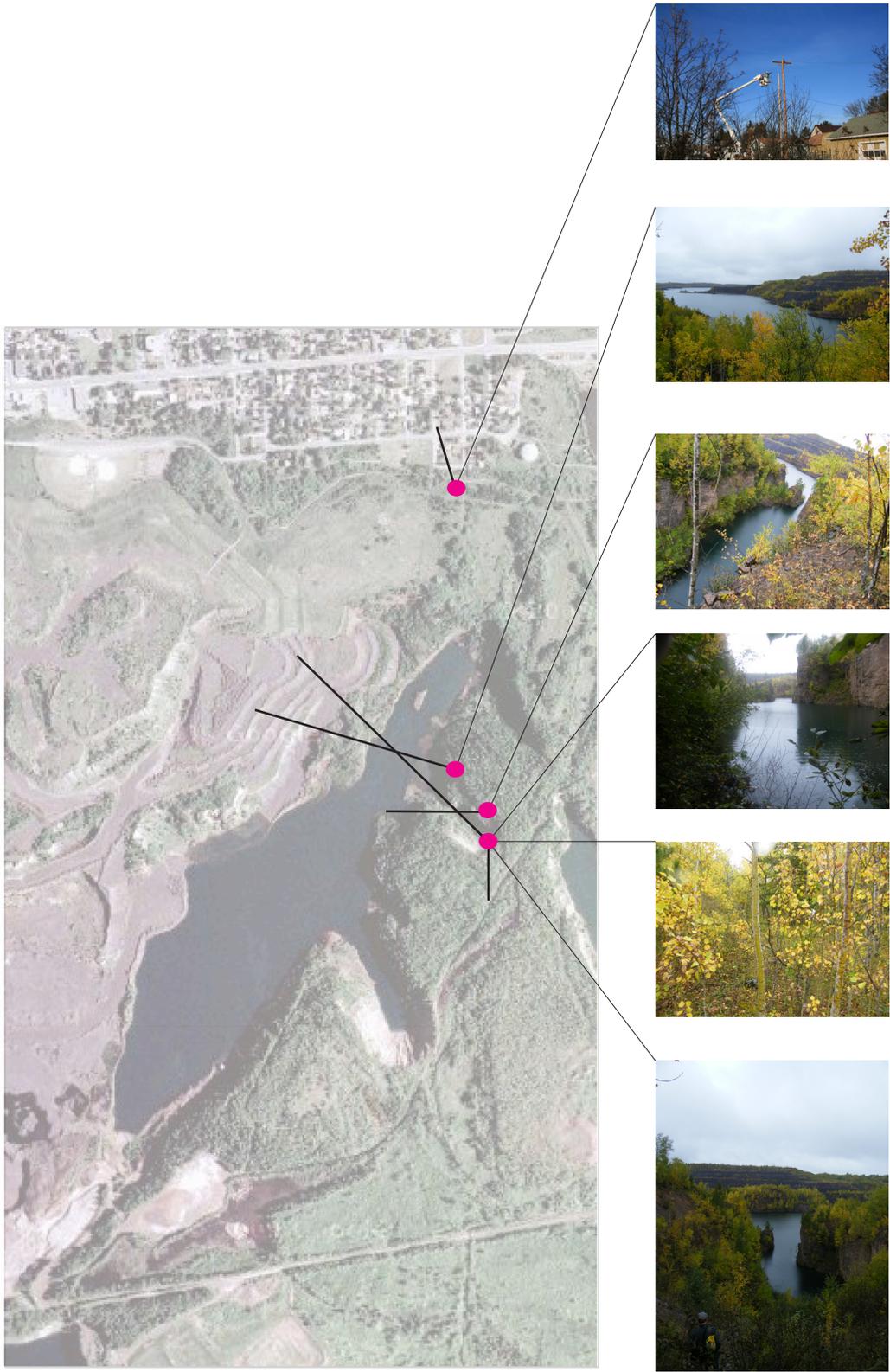


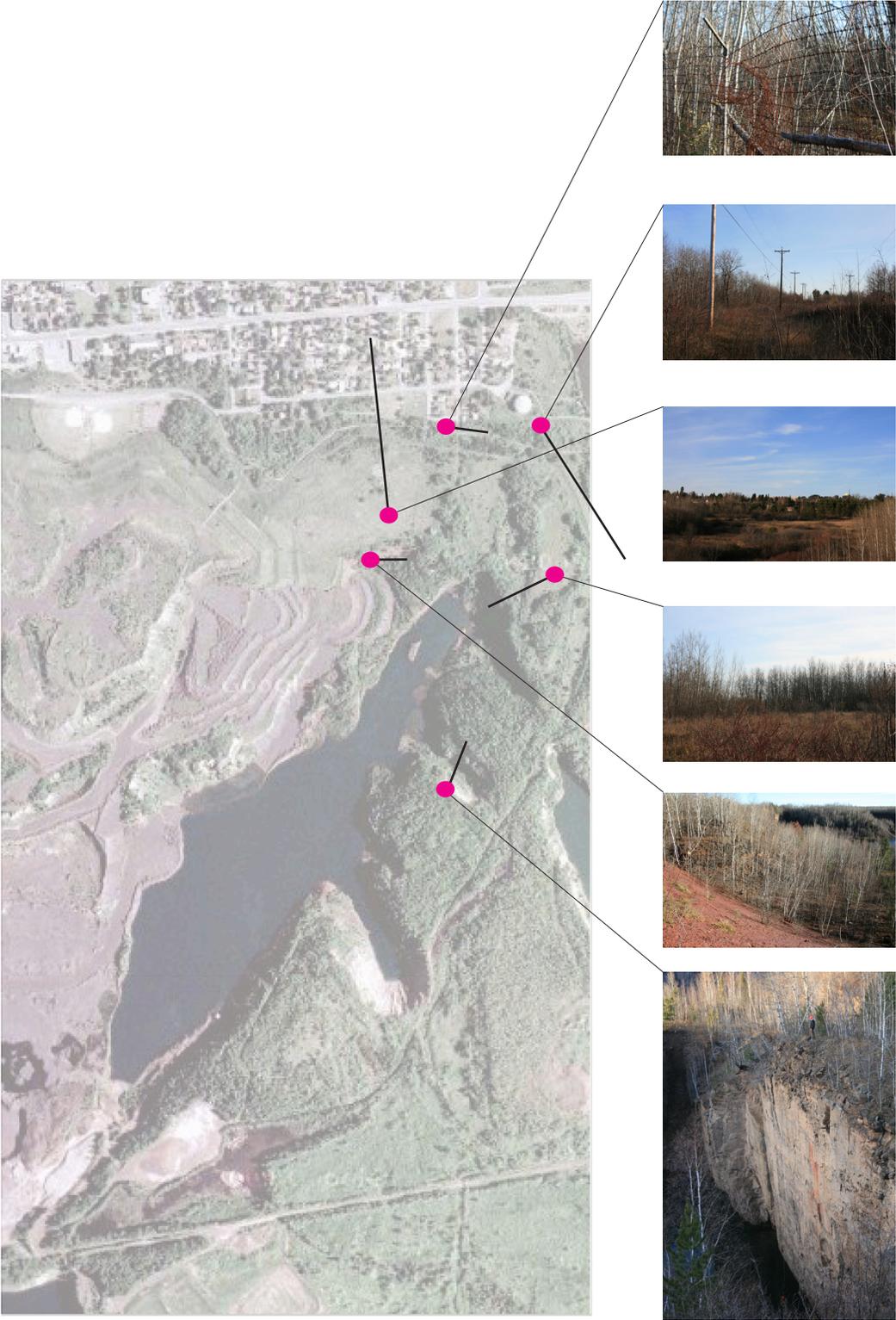
In this map you can see the effect the mining industry has on the landscape that surrounds Eveleth. Colored in contrast of the ariel photo, this shows the land that Cleveland Cliffs owns just near Eveleth.

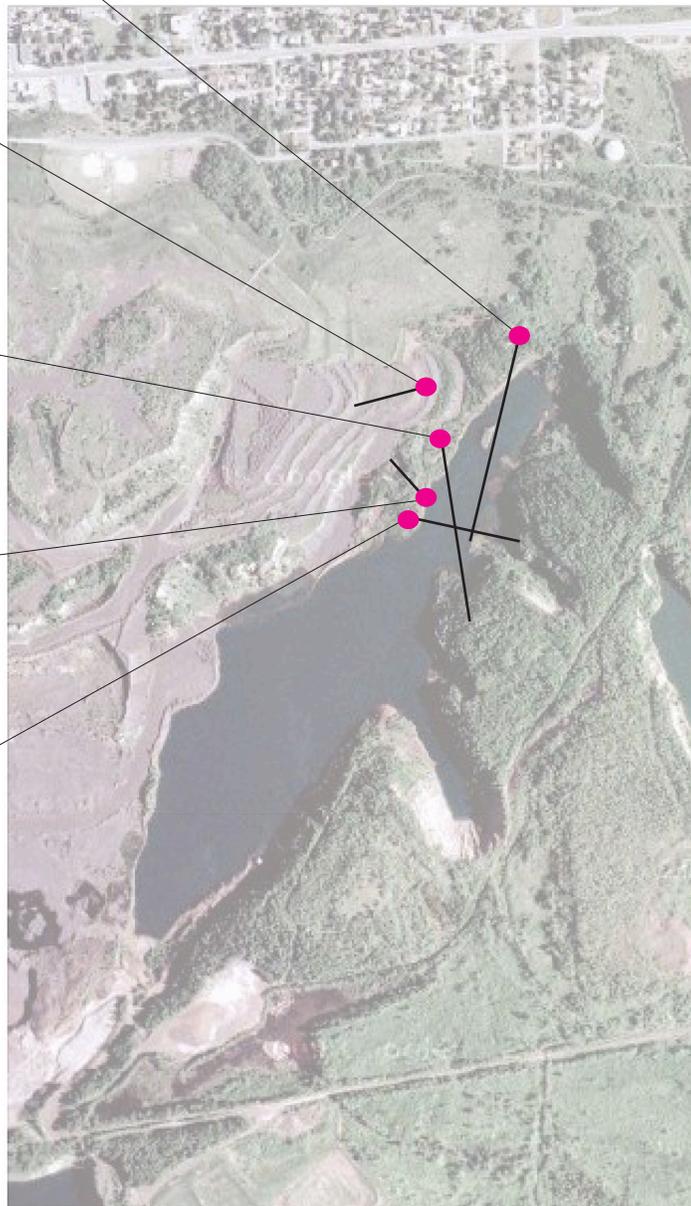




site reconnaissance

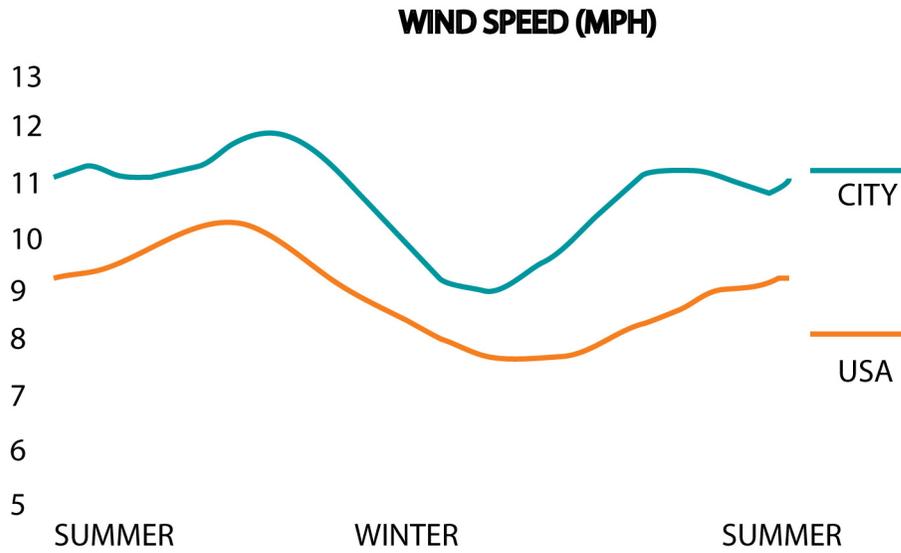




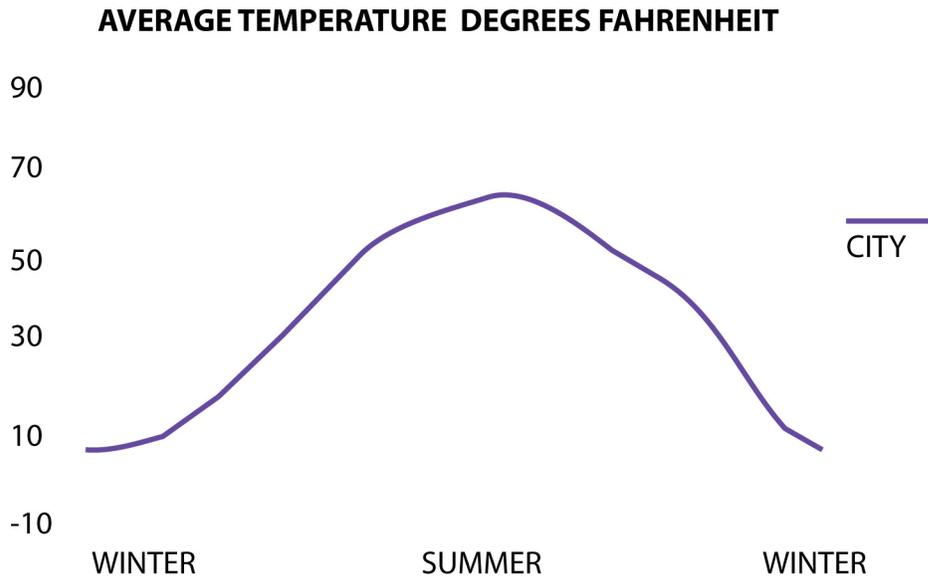




climate data

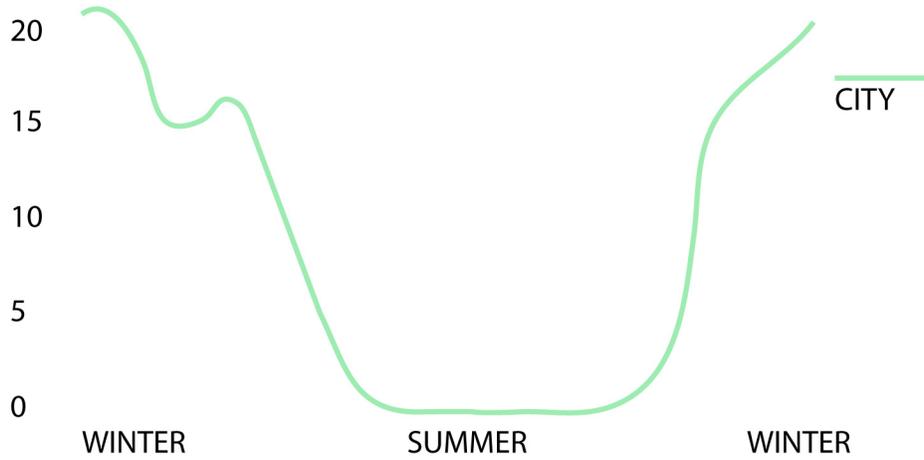


The wind speed of Eveleth year round is of little concern when designing a structurally sound building. The wind is of concern when positioning the building for snow drifts.



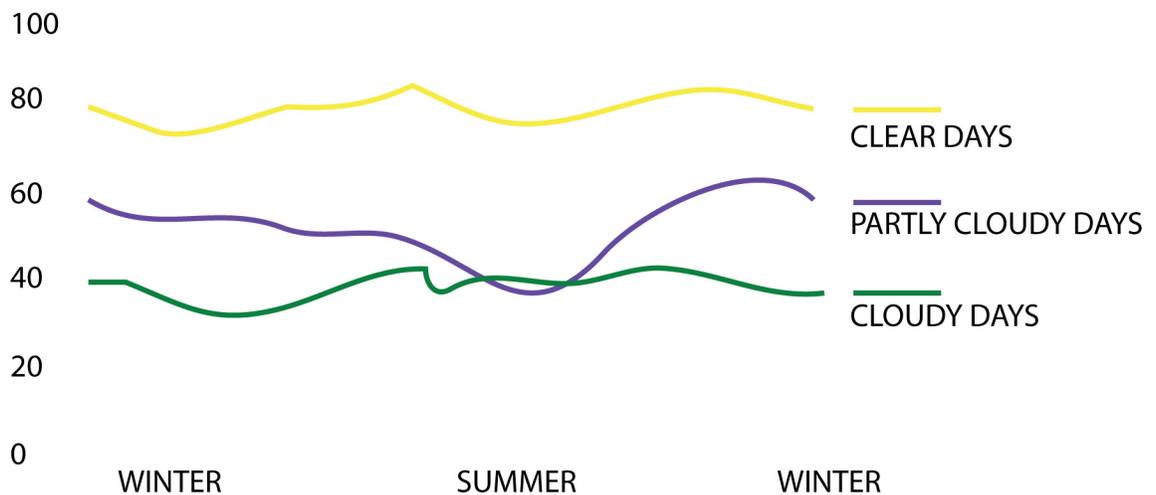
The average temperature throughout the seasons changes drastically. Its change will have to be considered since services for death will happen all year round.

SNOW FALL INCHES

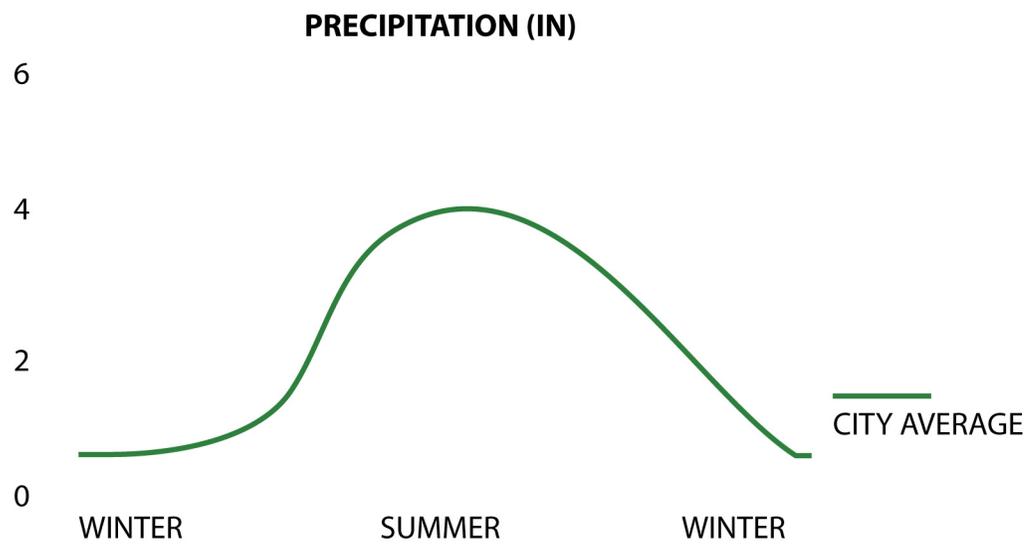
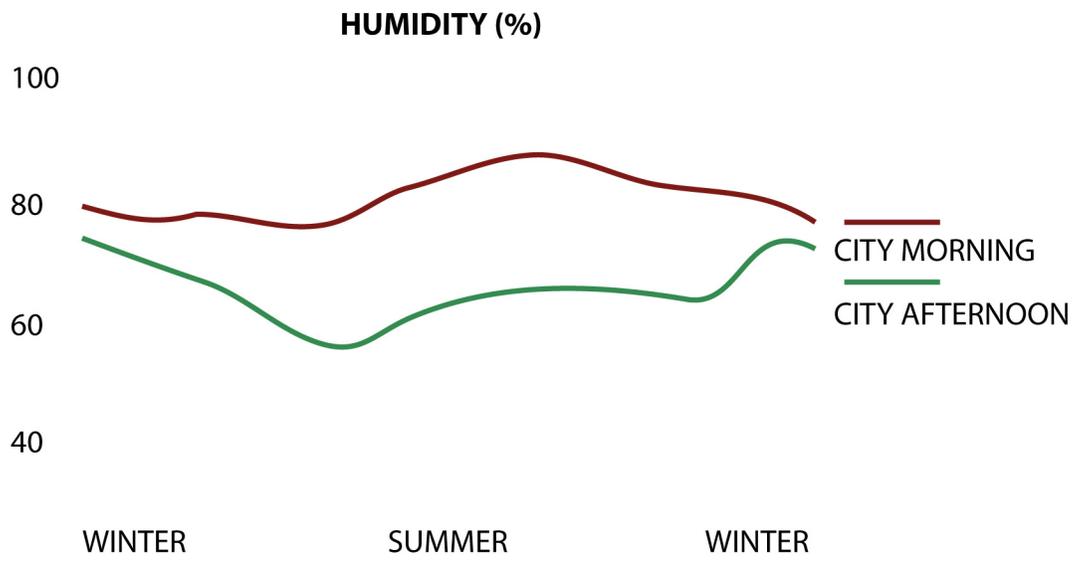


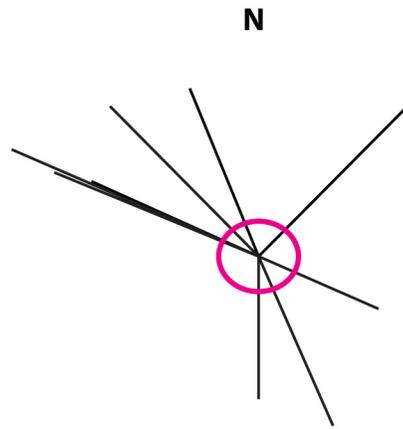
Snow fall is a part of a seasonal change that blankets the land and drastically changes the sense of the rocky red pit. This will be a consideration when designing the views from the architecture.

CLOUDINESS (%)

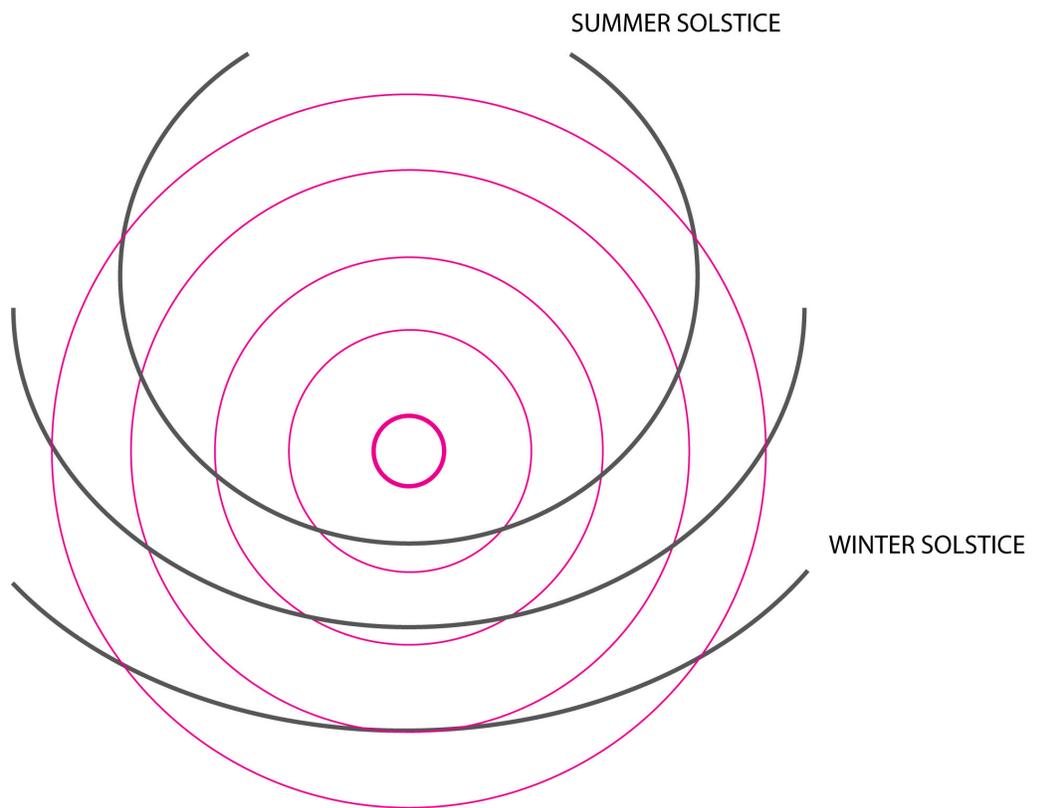


Clouds are really seen in the land of northern Minnesota. This will provide ample sun power to possibly be used as energy for the structures.





WIND ROSE



SUN PATH DIAGRAM

Goals for the thesis project

Goals to me are part of a desired end point. This means that at the end of the project I will have completed some sort of task or desired end point. After the achieved academic goals I will use the thesis to influence the way in which I become and practice as a professional. This will carry on into my personal goals of how this thesis relates to my life.

For the desired end point of thesis in the field of academics I intend for the project to display a quality of spatial design through high quality hand renderings of the spaces. These spaces also will exemplify the fruition of detail design that is unique and specific to the place of the project, meaning that I will attempt to understand the materials at hand on site and try to create construction details from the materials on the site. This will show sensitivity to the landscape and reduce the embodied energy for the ideal project construction. Through the sense of a complete design I hope to create a ritual that respects the locale of its rooted traditions of burial and tries to change the process of the entire ritual to create a better identity and connection to the land that is offered in a partial sense at the thesis site.

Theory and philosophy of questioning the existence of the afterlife need to be a part in the ritual of the design. In academics we are trained to question our future, I hope that my academic training can help others question the afterlife in a place such as Eveleth, Minnesota. By

questioning the future after the completion of my academic career and this thesis I will join into the field of the professionals.

In the professional field of architecture the thesis will influence my understanding of the evaluative process of understanding a place of site and of a culture. A professional goal of mine is to always think of architecture as anything built by the hand that retains a ritual to identify a sense of respect and honor in all things. The ritual of professionalism to me will possibly be defined by respect and honor. Furthermore the intent of creating things based from what is available at hand will definitely be a professional goal of mine. It has always been an intention of mine as a student to create from the materials at hand and there is no reason as to why this would change.

The goal of honor and respect as a professional will carry into my personal life. I am more likely to become a person of respect if I respect others. As a student in architecture this is a difficult thing to do with the intense competition in the academics. Another goal of this thesis in my personal life is to make note of the respect for the dead. More than ten years ago my grandfather died and still I have not visited his grave. I hope that in the future the studies of my thesis will teach me to honor the dead and question the way that I would ritually be cared for after death.

For now I will continue to work towards the completion of these goals and push for the

award of wisdom at the end. From six months from now I will look back and see the journey that has brought me to the completion or failure of the goals of the thesis. Then question if my intentions were honorable and respecting to the people that have influenced me throughout the process of design.

programmatic requirements

From the understanding of the case studies, these are the programmatic space requirements for the haven for the dead.

main chapel = 2,000 square feet
similar in scale to the Woodland Chapel and Brion-Vega Chapel.

supporting spaces for the main chapel
restrooms x2 = 100 square feet
waiting space = 400 square feet
office space/counseling space = 200 square feet
circulation space = 400 square feet
mechanical space = 400 square feet
mess hall space = 2,250 square feet

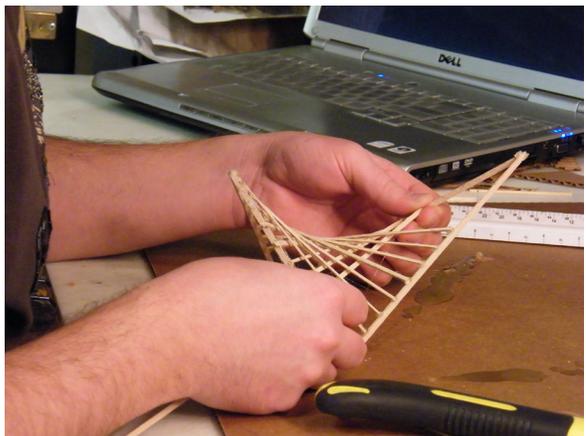
various temples x4 = 400 square feet
similar to the example of the water temple in Brion-Vega

total project square footage = 6,150 square feet

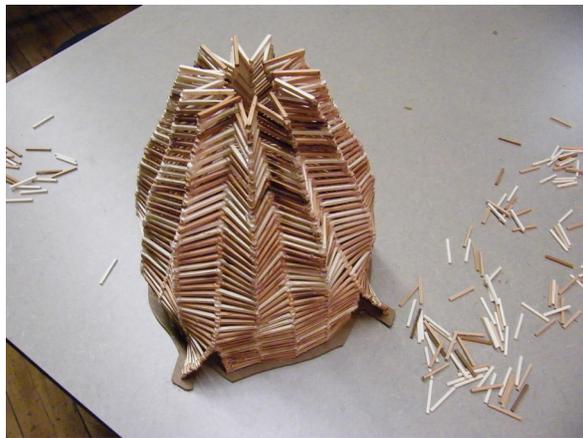
coffin garden = planned as of now 3 acres of land

design process and completion

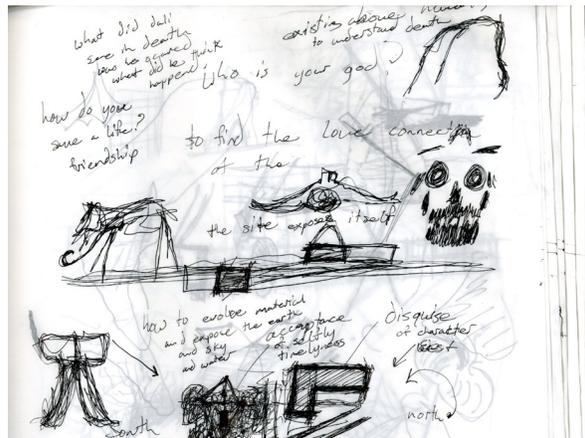
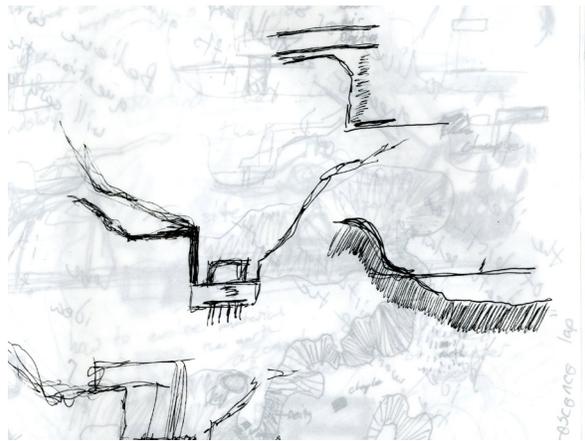
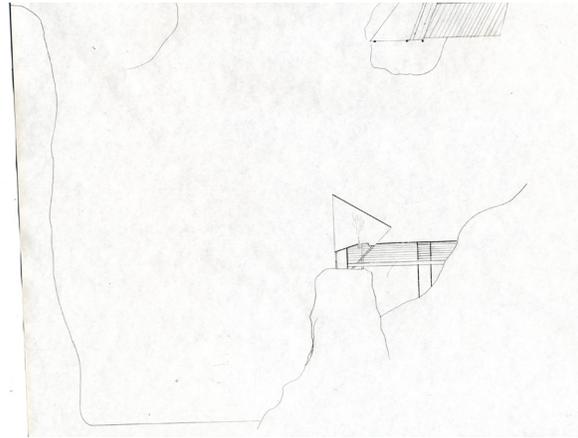


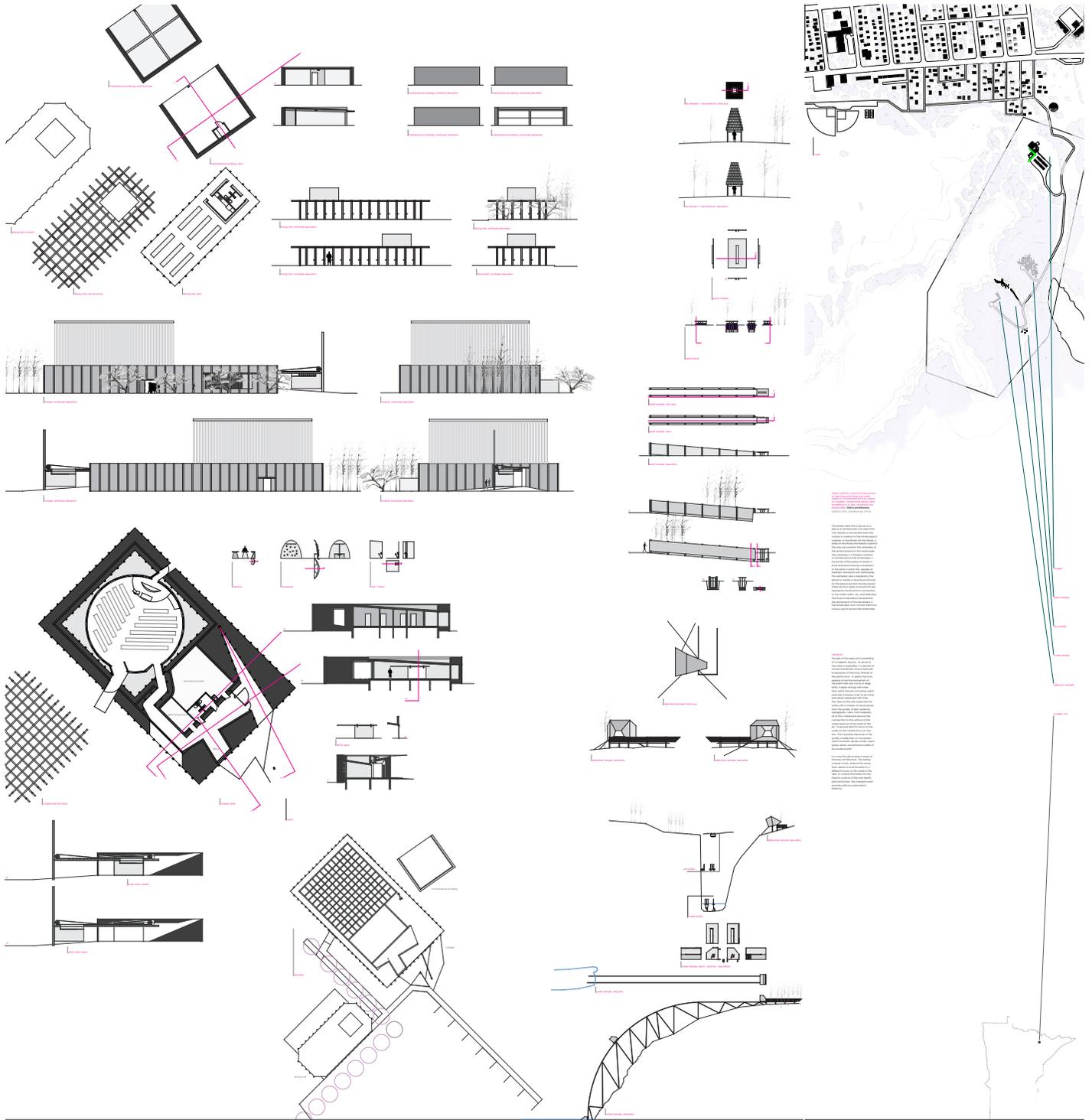












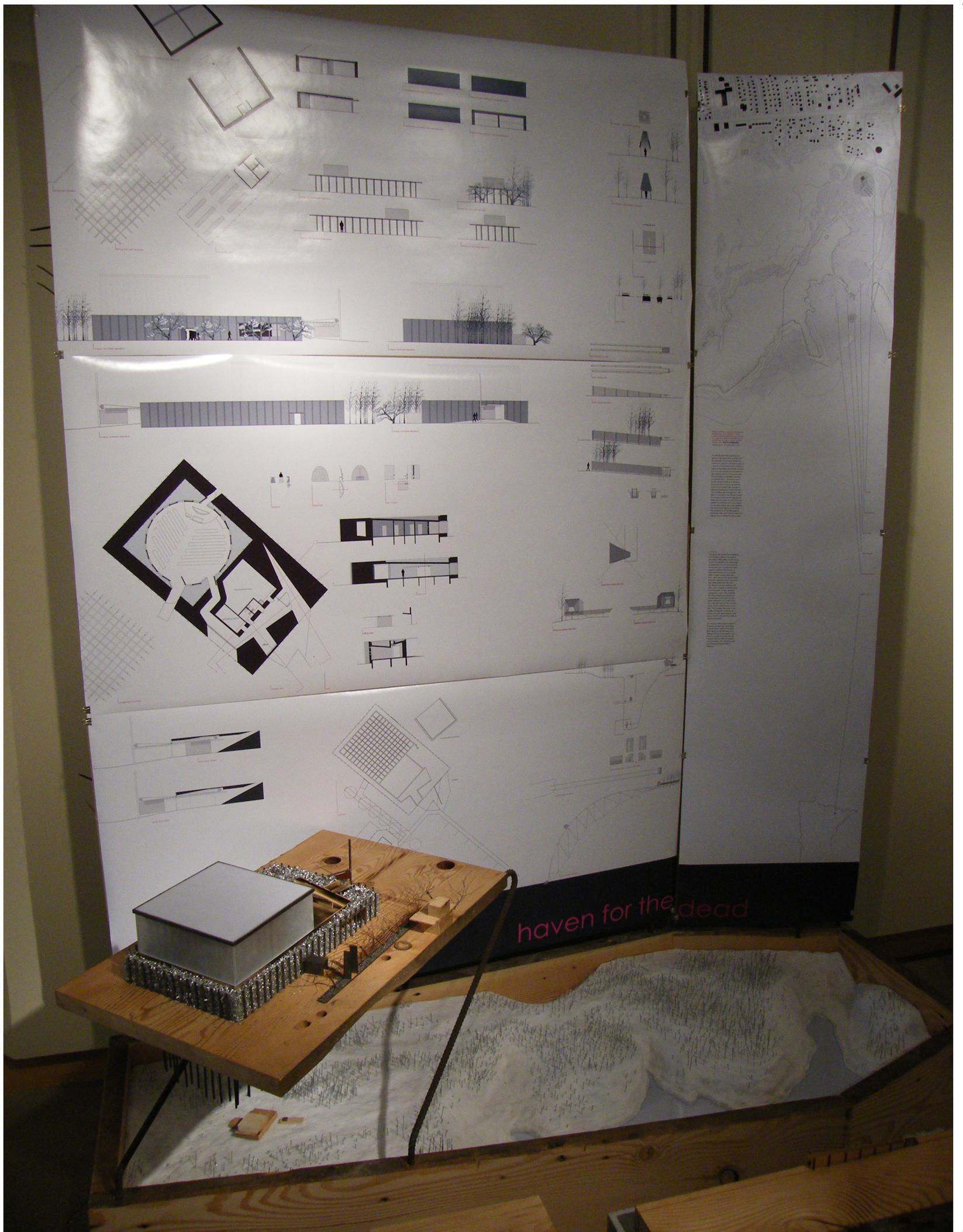
DESCRIPTION
 The building is a modern structure with a curved roofline and a series of vertical supports. It is designed to provide a haven for the dead, with a focus on natural light and ventilation. The building is situated in a natural setting, with a road and other structures nearby.

CONCEPT
 The concept is to create a space that is both functional and beautiful, providing a place of rest and reflection for the deceased. The building is designed to be a part of the natural environment, with a focus on sustainability and environmental friendliness.

DESIGN
 The design is a modern, minimalist style with a focus on clean lines and a neutral color palette. The building is designed to be a part of the natural environment, with a focus on sustainability and environmental friendliness.

CONSTRUCTION
 The construction is a modern, minimalist style with a focus on clean lines and a neutral color palette. The building is designed to be a part of the natural environment, with a focus on sustainability and environmental friendliness.

haven for the dead



haven for the dead

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NDSU architecture has taught me to
question the existence and understanding
of my world view and I thank this institution for
my education.

micah s. deitz

