

Today for **Tomorrow**

Christopher.J.Anderson



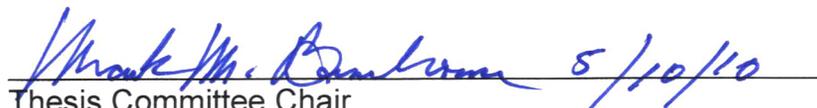
Today for Tomorrow

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

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for the Degree of
Master of Architecture


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Christopher. J. Anderson

(Date) 4-9-10

Contents

Thesis Abstract	9
Thesis Problem Statement	11
Statement of Intent	13
Narrative	17
User/Client Description	19
Major Project Elements	21
Site Information	23-25
Project Emphasis	27
Plan for Proceeding	29
Previous Studio Experience	31
Research Results	34-43
Research Summary	44,45
Case Studies	48-59
Case Study Summary	60,61
Historical Context	62-67
Thesis Project Goals	68,69
Site Analysis	70-81
Programmatic Requirements	82,83
Reference List	86,87
Personal Identification	88,89

Abstract

Christopher. J. Anderson

Educating today's children about the facts of sustainable awareness is essential to reach the maximum potential in order to provide for both the environment and future populations.

In today's world, children seem to hold a hierarchy in which technological advancements in computers and video games reign dominantly over recreation and the outdoor natural environment. The problem is, that as we move through this digital revolution, children are becoming more and more disconnected from the offerings that our planet provides. In order for our existence to flourish, it is important for today's youth to become more environmentally aware of their actions.

This design and research project focuses on the creation of an institute for children that bears a strong emphasis on the education of sustainable behaviors. The location for this project is on Nicollet Island, Northeast of Minneapolis, MN, where it will serve as an educational facility for the underprivileged youth of the area. The total square footage of the project will range between 12,000-20,000 square feet with multiple levels.

The goal for this project is to create a rich environment that provides the proper education behind the sustainability of the environment as a whole as well as how to better one's own personal existence.

Key Words

Environment
Education
Sustainability
Children

Problem

How does a strong emphasis toward environmentally conscious architecture affect the development and growth of society's future?



solis

Statement of Intent

Typology

Youth facility educating sustainable behavior

Claim

As children become increasingly educated on the ideas behind sustainability principles, they grow up with the knowledge of how to better their environment, but to also better themselves as well. In return, future generations will benefit from the environmentally responsible behavior exhibited by preceding populations.

Premises

If we want to truly embrace sustainability, it must be presented to children at an early age so that they absorb and develop the proper values of sustainability to take with them into adulthood.

The amount of change necessary requires that proper education is implemented early in order to provide the planet with a population that is environmentally aware of their actions.

Children become tomorrow's reality. The things that they learn follow them throughout their lives. If sustainable education is taught early, there is a better chance that environmentally friendly actions will take place in the future.

Educating today's pupils about sustainability principles allows them to grow up with the knowledge to properly carry out techniques to conserve natural resources as stewards for the environment.

Theoretical Premise/ Unifying Idea

Educating today's children about the facts of sustainable awareness is essential to reach the maximum potential in order to provide for both the environment and future populations.

Project Justification

Without a direct effort toward sustainability, the world's natural resources will deplete, leaving future generations to struggle. The amount of change needed requires the undivided attention of entire populations. The future will succeed if it consists of individuals who have been bred to respect the sensitivity of our ecosystem.



Proposal

Narrative

In today's world, children seem to hold a hierarchy in which technological advancements in computers and video games reign dominantly over recreation and out door natural environment. The problem is, that as we move through this digital revolution, children are becoming more and more disconnected to the offerings that our planet provides. In order for our existence to flourish, it is important for today's youth to become more environmentally aware of their actions.

This design and research project focuses on the creation of an institute for children that bears a strong emphasis on the education of sustainable behaviors. The location for this project is on Nicollet Island, Northeast of Minneapolis, MN, where it will serve as an educational facility for the underprivileged youth of the area.

The goal for this project is to create a rich environment that provides the proper education behind the sustainability of the environment as a whole as well as how to better one's personal existence.

Western Society is blindly making strides toward a sustainable future by neglecting to concentrate strong efforts toward the environmentally based education of today's youth in hopes for a better tomorrow. It is as if the planet is being denied its right to have all of its citizens environmentally aware of their actions. In order for the planet to survive, there needs to be a stronger emphasis toward properly educating children on the ideologies surrounding sustainable well being.

The idea behind educating sustainable behavior involves a wholistic approach that engages its participants through nature. A personal well-being is attained through exploration of the mind and the body. Every facet of environmental awareness must be considered in order to expand future horizon's. The instillment of these ideas into the minds of today's youth will allow future sustainability practices to become automatic, rather than problematic.

User/Client Description

Designing with tomorrow's future in mind, this youth educational facility focusses on enhancing the growth and development of children in a more sustainable manner.

Although the facility's services would be open and encouraged to anyone under the age of eighteen, the primary users of the building would come from the community surrounding Nicollet island, which is located along the Mississippi river Northeast of Minneapolis, MN.

The adults using the building would consist of volunteer students from the University of Minnesota who are assisted by the foundation of a small, carefully chosen faculty. The idea is that volunteer college students would be able to earn academic/post-academic credit for providing sustainable knowledge with respect to their particular field of study. Instructors would always be welcome.

The architecture would be able to accommodate approximately 100-200 students ranging from kindergarten to twelfth grade as it integrates itself with the high school currently located on Nicollet Island.

The client for this project would be the community surrounding Nicollet Island. The major decisions are brought before a panel of local citizens and designers in order to provide a piece of architecture that revitalizes the desire for a greener way of life.

Major Project Elements

Classrooms

Classrooms

specifically designed spaces intended for the exploration of different environmentally based studies

Library

Library

A space to read.

Woodshop

Woodshop

space for creation

Gardens

Gardens

intended for the cultivation of natural plants, fruits, and vegetables.

Physical Wellness

Physical Wellness

recreational spaces

Kitchen

Culinary Kitchen

educating the appetite

Daycare

Daycare

encouraging a child

Design Studio

Design Studio

encouraging a child to create

Gathering Spaces

Gathering Spaces

designed to allow for social interaction and conversation.

Conference Rooms

Faculty Offices

Storage

Washrooms

Service Entry

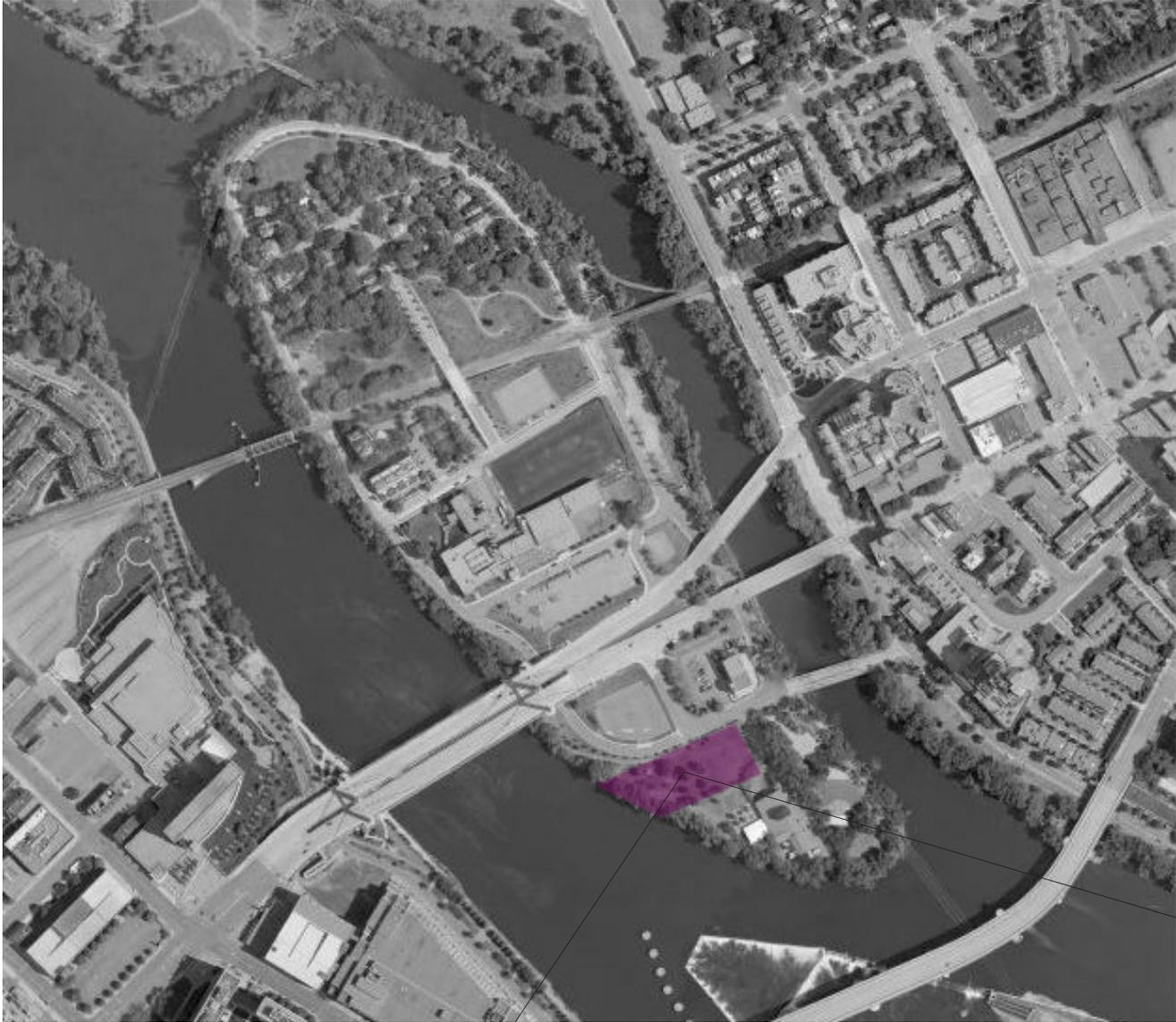
Macro



While determining a site for my thesis design project, I considered three different states in which the views on sustainability are widely accepted as a whole.

In the end, Minnesota offered me all of the necessities that would enable my project to be carried out in a meaningful way. Minnesota is home to me, so there is an extra sense of obligation to create a lasting and beneficial piece of environmental design.

Site Information



02

Minneapolis
.5 Miles

Nicollet Island is a community located on the Mississippi River approximately .5 miles northeast of Minneapolis Minnesota. There are three main structures on the island which include DeLaSalle High School, the Nicollet Island Inn, and the Nicollet Island Pavilion. The island is also home to approximately 22 residential homes as well as three multi-family residential buildings.

Why is this site important to my project?

Because I am designing a youth facility which educates students on sustainable behavior, it was important for me to locate a green site within a larger, more urbanized setting. The goal was to target a location that housed middle to lower income families. This is a direct attempt to aid in the environmental education to those who have been disconnected.

The close proximity to a natural body of water was a highly sought after aspect to the overall design. This allows children to conduct educational water research experiments as well as enhance the aesthetic quality associated with the building design and natural surroundings.

Closely located to the University of Minnesota campus, Nicollet Island creates a wonderful opportunity for students of a variety of majors to volunteer their time to become teachers, leaders, and mentors to the children of the surrounding area.

Along the Mississippi River, the Island offers gorgeous views of the Minneapolis skyline, as well as the 3rd Avenue Bridge and river spillways.



University of Minnesota
1 mile

Accessed By

Merriam St.
Hennepin Ave
1st Ave NE

Project Emphasis

The emphasis of this project will focus on creating environmentally rich spaces for children to learn the valuable concepts behind sustainability as a state of mind.

There is an obligation to design this building in a way that seduces the body through poetic experiences with architecture and nature.

The lessons and values that are taught need to be significant and remain deeply rooted within a child's mind as they grow into adults. By doing so, the populations of the future will thrive off of the awareness of those in the past.

The architecture itself will integrate green design principles in order to accomplish a meaningful and functional design that connects the natural environment to the urbanized landscape.

Plan For Proceeding

Throughout the stages of research and design for this thesis project, numerous methods of data collection, whether qualitative or quantitative, will be implemented in order to provide the best possible design solution.

Conducting multiple site visits will be a crucial means for gathering qualitative data associated with the direct site, as well as the surrounding area. By doing so, I hope to gain a better understanding of the specific site characteristics. I believe that this will be a strong aid while compiling a proper site analysis.

Along with qualitative data, quantitative data will be collected through extensive case study research. Various archival research will allow for the investigation into statistical analysis that will aid in the analysis for the design.

Documentation for this project will take place every three days in order for the design to evolve into what it needs to be. This will be done by photographing parts and process models. Drawings, sketches, and writings will be scanned into the computer in order for them to be properly documented.

The final presentation will consist of a final, well crafted model, along with presentation drawings done using a mixed media deriving from computer and hand-done renderings. Anything important will be considered for the final presentation.

Previous Studio Experience

Fall

Spring

2

Darryl Booker_2006

Tea House_Fargo, ND
Boat House_Minneapolis, MN
Dwelling_Bear Lake, CO

Bakr Aly Ahmed_2007

Montessori Scool_Moorhead, MN
Prairie Dance Academy_Fargo, ND

3

Ronald Ramsay_2007

Agincourt Design_Agincourt, IA
Shaker Barn_Mount Lebanon, NY

David Crutchfield_2008

Mixed Greens_Fargo, ND
Structural Bay Model
Food for Thought
BWBR Finalist

4

Don Faulkner_2008

Vlad Towers_San Francisco, CA
Life in a Cigar Bow_KKE Comp.

Stephen Wischer_2009

AVE Train Station and Hotel_Barcelona

5

Frank Kratky_2009

River Keepers Living Lab_Fargo, ND

Joan Vorderbruggen_2010

Today for Tomorrow_Minneapolis, MN



Program

In today's world, our environment is being held ransom by the increase of the world's resource consumption as well as the inability to suppress its escalating population growth rate. The improper education of these severe issues is fueling a fire that is burning up natural resources intended for future generations.

This section of the program deals with the research conducted in order to reinforce the importance of educating today's children about the facts and ideas behind sustainability. The focus is on the fact that the world's natural resources are at risk and that the best possible way to prevent this is to educate children very early in age why it is necessary to develop a sustainable way of living. By doing so, they grow up to be more environmentally conscious adults.

The readings that follow first discuss how, along with overpopulation, we as humans, are deteriorating the ecosystem through careless actions regarding planetary discipline. Through everyday activities, people exert a negative force on the planet by neglecting to think about the environmental repercussions of their actions. These vicious cycles will endlessly repeat themselves day after day as long as we remain uneducated and unmotivated.

The focus then centers itself around the question: Why do we continue to misuse the offering that the environment provides? The answer involves the evolution of the consumer psyche. This is a problematic aspect of human nature that leaves individuals always wanting more.

The last topic refers to the significant role children play in the survival of our existence. As opposed to adults, children are at better odds to carry on the environmental ideals bestowed upon them. As time has progressed, children have grown to become increasingly disconnected with the natural world around them. The rise of the digital era has hypnotized the minds of kids to the point where they have become technological zombies. It is almost as if children have become allergic to outdoor recreation. Their only medicine is the soothing comfort of a video game controller or computer mouse. In the minds of today's youth lies the belief that the only things in life that are real are those that are simulated.

Research Results

In their article “Too many people, Too much consumption”, Professor Paul R. Ehrlich and senior research associate Anne H. Ehrlich of the Department of Biology and the Center for Conservation Biology at Stanford University discuss the notion that along with overpopulation, overconsumption is an increasing epidemic that is spreading throughout our existence causing the depletion of earth’s life-sustaining resources. They say:

“If we fail to bring population growth and overconsumption under control, then we will inhabit a planet where life becomes increasingly untenable because of two looming crises: global heating, and the degradation of the natural systems on which we all depend.” (Ehrlich 2008)

As both the economic and population growth-rates increase, it becomes evident that the world is becoming increasingly susceptible to the early consumption of our planet’s limited resources. The fact that these resources are limited creates a problem for future generations in that the planet is not capable of indefinitely supporting our population’s increasing consumption rates. What are the reasons for the untimely demise of our planet’s nonrenewable resources?

Deborah Du Nann Winter suggests that the modern behavior of humans results from the decline of our life-sustaining resources. She explains that the unsustainable actions of everyday human life have already negatively affected our climate, forests, water supplies, and land use (Winter 2004).

The rise of the industrialized era has created a civilization whose hunger for energy consumption has jeopardized the future of a sustainable existence. The excessive burning of fossil fuels due to the lack of technological advances in renewable energy development has greatly contributed to the acceleration of global warming. Data shows that the temperature on the earth’s surface has risen from 14.4 degrees C in 1865 to 15.3 degrees C in 200 (Worldwatch Institute 1997).

Winters explains that the transportation choices we make have an extreme impact on the levels of carbon emissions being exposed into the ecosystem due to the fact that the majority of transportation methods require oil for fuel.

“Citizens of the United States travel twice as far as Europeans, using 18 barrels of oil per person per year in comparison to Canadians, who use 13, and Japanese, Australians, and New Zealanders, who use an average of 6 (Winter 2004 pg.71).”

Among some of the possessions humans revere, the automobile ranks highly in that it is seen as an attainment of financial prosperity. If people continue to embrace automobiles as a main source of transportation, the numbers of them will increase at the rate of the rising population.

The level of deforestation is on the rise. The lack of forests encompassing the earth's surface is having a negative effect on our planet's vitality. Along with the ability to produce oxygen and absorb harmful emissions, forests also serve as homes for a great majority of earth's plant and animal species. As our cities continue to sprawl, more and more forests are being destroyed in order to provide adequate space for human habitation.

Forests also provide the paper which people use unsparingly in their everyday lives. There is no escaping the use of paper, not even in this age of electronic prosperity.

Winters believes that the extremely low cost of paper forces people to waste it on unnecessary endeavors. And as a result, the earth's forests are being threatened of early extinction

"Our gluttonous use of paper stems partly from inappropriate pricing mechanisms. Paper is often cheaper than its real cost because the supply of paper often outpaces demand (Winter 2004 pg.73)."

Although we have propelled our species into a digital revolution, humans continue to use paper in situations where it could typically be viewed as environmentally irresponsible. Unless proper action is taken, humans will continue to selfishly squander their paper supply, resulting in the cataclysmic sacrifice of innocent forests.

A personal observation of mine reveals how the irresponsible act of a restaurant (which will remain nameless); this adds to the ongoing accomplices to planetary assassination.

While I was home for Thanksgiving vacation, I dined at a new restaurant in the area and noticed that their menus were made out of paper (single sheet, computer grade), and that they were replaced each time a table sat down. The restaurant's decision to use paper as their menu material was at best poor, simply because they would have to throw each menu away every time it had been used. Even if they could salvage a clean menu, the current date was typed at the top of each menu, ensuring that they could never be reused within the restaurant again.

It is this type of irresponsible sustainable behavior that is threatening the natural ecosystem. Not paying attention to the subtle nuances of sustainability can result in catastrophic consequences where the future of humanity is directly at stake.

Research Results

Some view the world's water supply as vast and unlimited, but the truth is that there is only a minute fraction of usable water within the overall amount in existence. A surge of industrialization due to the manufacturing of consumer goods has resulted in the acceleration of water depletion throughout the entire world.

“Although household use accounts for only 12% of freshwater depletion, daily behaviors of people of industrialized countries indirectly threaten the World's freshwater supply through overconsumption of industry-produced products, packaging, and irrigated food. Thus consumers bear responsibility for major depletion of water levels through their product choices (Winter 2004 pg.74).”

A decrease in water and an increase in population are leaving the earth with less and less land to be farmed. As consumers, Winters says that there are basically two ways in which we are contributing to land degradation: if you purchase food that is grown in non sustainable ways, you promote the increase of non sustainable food productivity, as well as or duty to purchase sustainably farmed food. People also need to become more of aware of their voice as a person. The opinion of one person can spark the action of many.

“When citizens who care about sustainable agriculture are not involved in local planning, decisions get made by real estate developers, local contractors, and others who stand to gain financially from excessive sprawl(Winter 2004 pg.74,75).”

Why do people continue to carelessly waste our planets short supply of nonrenewable resources? David G. Myers, author of “The Social Psychology of Sustainability,” believes that some of the blame can be placed on the increase of the population’s materialistic desires.

An annual survey of more than 200,000 students for the UCLA American Freshman shows that from the year 1970-2000, there was a steady increase in the desire to become financially wealthy as opposed to developing a meaningful philosophy towards life. The idea of the ‘American Dream’ symbolizes the success of an individual viewed through the attainment of admirable worldly possessions. Personal fortitude to achieve these items fuels the roaring engine of the industrial machine.

People in industrialized areas have developed an insatiable thirst for personal success. As we become increasingly financially stable, we seek to acquire objects that give us pleasure either physically or mentally. Ownership of such items can be seen as a sign of success in the eyes of the general society. The ability for humans to attain these objects so quickly has had drastic effects on the ecosystem due to the increases in manufacturing productivity.

Myers asks “Why do yesterday’s luxuries so quickly become today’s requirements and tomorrows relics?” His response deals with the ‘psychology of consumption’ that is driven by two underlying principles. First; “Our human capacity for adaptation”, deals with the comparisons humans make between present and previous experiences. With further regards to this principle, Myers states that:

“As our social prestige, income, or in-home technology surges, we feel pleasure. Before long, however, we adapt. What once felt good comes to register as neutral, and what was formerly neutral feels like deprivation. As the good feelings wane, it takes a higher high to rejuice the joy (Myers 2006 pg.108).”

People are constantly trying to achieve success that exceeds current levels of contentment due to the fact that we are adapting to prior levels of sensation. The result of this is the development of an appetite for overconsumption by a population that is steadily on the rise. As we become bored with what we already have, a higher standard is established for what is now the new means for personal satisfaction.

Research Results

The second principle that Myers discusses deals with “Our wanting to compare.” He discusses this principle with the idea that people are constantly comparing themselves to others (i.e. Keeping up with the Jones’), and that our feelings of satisfaction or dissatisfaction depend on who we are comparing ourselves to.

“We are slow-witted or clumsy only when others are smart and agile (Myers 2006 pg.108).”

This means that a person of moderate success will begin to feel inadequate as they compare themselves to those who have achieved a higher level of accomplishment. Myers uses the analogy that a satisfied baseball player making a generous \$8 million dollars a year will begin to feel less satisfied as soon as they find out their teammate is making \$15 million dollars a year. You wouldn’t think that someone making \$8 million dollars a year would have something to complain about, but it happens all the time.

Example: Now retired NBA star, Latrell Sprewell, once made a statement strongly expressing his dissatisfaction with his \$10 million dollar contract. His reason was that he felt that he was not making enough money to feed his kids. How Tragic.

The point of this is that even if a person is successful, they will always feel inferior to those that are above them. As people constantly try to outdo their neighbor, more and more resources are wasted at the hands of the consumer. People do not understand that they cannot escape envy by meeting high levels of achievement because there is always going to be someone that is more successful than they are.

Both the adaptation level and social comparison phenomena of consumer psychology interfere with the planet’s ability to use its resources at a more conservative rate. They suggest that a continuous expansion of wealth is necessary in order to remain happy or satisfied with our materialistic achievements. There needs to be a change in the way success is measured. The higher something is on a pedestal means that there will be an increased amount of energy used in order to climb up to it.

As a means to combat overconsumption, there needs to be a strong desire for the current inhabitants of this planet to develop increasingly sensitive tendencies with their actions toward the natural environment. The crisis is that extinction is on the horizon and educating the public on the ideas behind sustainability is imperative in order to survive as a species. We need to invoke a proper sense of urgency with regards to the embracement of resource conservation methods.

As the planet rests helplessly, advocates for a greener future are faced with a dilemma of how to best educate the public about the consequences that derive from one's environmentally negligent actions. This is a problem that cannot easily be fixed. There is a challenge involved, where like in the game of chess, the strategic placement of pieces can conquer an overly arrogant adversary. The question now becomes: How are we going to position ourselves to achieve an environmental checkmate?

The answer to this starts from the ground up. Although adults do carry the mental capacity to learn and retain information, they also tend to have a harder time adapting to change. The idea is that the focus of educating sustainability needs to be aimed towards children, who at an early age are far more likely to embrace the philosophies bestowed upon them. Educating children on the ideas behind sustainable behaviors at an early age would prove to be a beneficial way of conserving the planet's limited amount of natural resources for future use.

There is the notion that if you continually reward a child for something that he or she did, they will continue to act in the same manner in hopes of receiving the same praise. If there is enough positive reinforcement, the values learned will follow the child into adulthood where they will display behavior similar to that of which was rewarded in the past.

In order for today's youth to become environmentally conscious adults, we must positively reinforce children for employing acts of sustainable behavior. This type of child development is associated with the ideas of B. F. Skinner's 'radical behaviorism,' where the focus is on the different aspects of life that cause people to react in certain ways.

Research Results

Robert Thomas, author of the book “Comparing Theories of Child Development,” breaks down the essence of Skinner’s belief and explains that:

“Every time someone acts, the action is followed by a consequence. The nature of this consequence determines whether the person will act in the same way in a similar situation in the future. If the consequence is pleasant and rewarding, then the person will tend to act in the same way in the future. If the consequence is not rewarding, the person will tend to act differently. In essence, according to Skinner, the behaviors we develop as we grow up depend on the consequences that followed those behaviors in the past (Thomas 1979 pg.8).”

It is important to teach children to fully appreciate the offerings that the planet has provided so that they learn to accept their roles and responsibilities as stewards of the environment.

Maria Montessori is a distinguished individual in the field of child development theories. During her observation of the behavior of mentally challenged children, she formulated a theory on child development and created learning materials and activities intended to expand children’s interaction with nature. This is widely recognized as the Montessori Method. Montessori viewed the ‘absorbent mind’ as essential to the psychic development of children. As a child enters the world, they possess an instinctive template for future development, but their minds remain free of preconceived philosophies. During these first few years of life, children experience themselves in a way that cannot be achieved by adults (Thomas 1979).

This suggests that a crucial time a child’s mind absorbs information is during their earlier years of life. It is at this point in which we need to be concentrating all of our efforts toward the education of sustainable behavior. A change in our planet’s vitality requires that we push for a widespread cooperation of human persistence toward a resourceful future. In order to accomplish this, the seed must be planted properly so that when everyone grows up, all you can see is green.

While discussing the ideas surrounding a child's connectivity to the outside world, the writings of Richard Louv's "Last Child in The Woods" provide insightful criticism on the lack of environmental involvement displayed by today's youth. While conducting interviews in schools across America, he came across a fourth grader who admitted that he preferred to play indoors because that was where all of the electrical outlets were located. Although sad, this alarming realization holds true for many of today's children. In their minds, there is no need to spend time outdoors when the entire world can be accessed by the click of a finger.

"In the space of a century, the American experience of nature has gone from direct utilitarianism to romantic attachment to electronic detachment (Louv 2005 pg.16)."

As I recall my past, I have visions of unparalleled excitement in the exploration of creeks, coulees, forests, lakes, and ponds. Before the age of technology, our after school entertainment consisted of numerous outdoor recreational activities. We used what we were surrounded by as a means to amplify our physical and psychological development. This allowed us to engage each other with humanistic contact and develop the social skills that cannot be attained through an electronic kinship.

The advancements in technology in our electronically induced era have allowed computers to become more affordable to almost any income level. As technology has gained momentum, the TV's, and computers have been turned on, and the sounds of nature have been put on mute.

Research Results

There are strong conclusions to be made from the research. As it is presented, there is indeed a significant threat to our existence. There is no escaping the fact that as population and industrialization increase, the planet's resources become stuck in the middle of a viscous crossfire.

The psychology of humans has driven industrialization limits to the max in order to easily sooth the cravings of consumer's materialistic wants. The depletion rate of our planet's resources suggests that there needs to occur a significant environmental change in order for the ecosystem to begin balancing itself out. This monumental change can only take place with the full participation of mankind. To do so involves an effort to instill nature back into the hearts of children.

The goals are to create a population that, as a whole, believes in the essential sensitivity that must be taken toward the earth. If we educate them properly on environmental issues today, they will continually protect the things that they have learned to love in the past.

In this day in age, children have the capability to be far more educated on the practices that promote a sustainable way of life. They are provided with greater tools for developing the skills needed to provide for future existence. Our current era allows an opportunity for children unseen by any others in the past. As we think about our upbringing, comparisons show that the educational resources provided to us in the past seem obsolete to those in the present. The main source of this involves the rise of the machine.

The push for a digitized way of life is sparked by human's unbridled obsession with creating more stuff. As electronics become smaller, our eyes become wider. People cannot get enough of anything the major markets present them with. Advertising has told us that we are simply not 'cool' unless we are up to date with the latest ipod. Facebook has informed us that John is getting married, and Jane is pregnant, replacing irreplaceable human encounters.

Although technology can serve a great purpose, it is being misused in that it is teaching children, either indirectly or directly, that the things they experience in nature are no match for the euphoria that can be achieved by a technological 'fix'. We have become so hypnotized by the world wide web that everything, including personal interaction, is now done through a computer monitor or via text.

It is funny to think about how an increase in technology can defuse the levels of genuine social interaction. Long ago, when you wanted to take with someone, you stood before them and used your mouth and body to speak directly to them. The invention of the telephone made it possible to converse with someone far away, but also decreased the level of personal intimacy. Further advancements now allow us to communicate without the use of any of our senses. We cannot see the person, we cannot smell the person, we cannot hear the person; the only things that we feel are the stubbornly functioning keys to our cell phone as we text communication without really communicating.

Research Summary

The world is consuming itself at rates that will indeed affect the lifestyles of future populations. Immediate action must be taken in order to develop the amount of environmental stewardship needed to reverse the amount of damage that humans have already caused.

The research for this portion of the project document focuses on the global crises facing current and future populations. There is an understanding that both overpopulation and overconsumption have increased the rate at which natural resources are being depleted. As this is observed, we can draw conclusions that the complete deterioration of the planet is inevitable as long as humans continue to live in a manner void of any sustainable discipline.

Further investigation revealed the subtle ways in which people are systematically harming the environment. Humans, whether knowingly or unknowingly, behave unsustainably in ways creating an urgent need for the advancement in the education of sustainable practices within the current curriculum of youth development.

Information was obtained in order to seek out the reasons why humans continue to knowingly over-consume. The psychology of the consumer was discovered as being a driving force for why people continue to act the way that they do. It stated that humans continually adapt to their lifestyles and become dissatisfied with their current economic position. Our tendency to compare ourselves to those of greater success causes us to constantly strive for the attainment of greater human prosperity.

The information also revealed that children are far more capable of absorbing information to the point that it becomes embedded into the heart of their core values. These values are those that follow the child throughout their natural existence. Fostering the ideologies behind sustainability is a crucial means for a better environmental outcome.

The main statement that can be gathered from these conclusions is that: there is a substantial problem facing our planet. Humans are at fault; and the best way to fix the problem is to better educate children on sustainable practices so that they can use those essential values to drive the decisions that they make throughout life.

Case Studies

One_ Primary School

Gando, Boulgou, Burkina Faso
Diébédo Francis Kéré

Two_ Lotus School

Ladakh, India
Arup Associates

Three_ Willow School

Gladstone New Jersey, United States
Farewell Mills Gatsch Architects, LLC

1 Primary School

The Primary School is an educational institute located within the 3,000 person community of Gando village on the Southern plains of Burkina Faso. Diébédo Francis Kéré, the architect, and the first person from Gando to leave and study abroad, was convinced that increased education was at the forefront in terms of necessities for the advancement of his people. Not only did he design the school and raise the funds to build it, he also secured government support to train people in building with local materials and drew on the strong emphasis to engage all of the villagers to support in the construction of their new school.

Construction of the school began in October 2000 and was carried out largely by the people living within the village. The school opened its doors to the village in 2001 and now has a population of approximately 350 students. In response to the growing numbers of the student body, a second complex was constructed and completed in 2006 (Ford 2007).

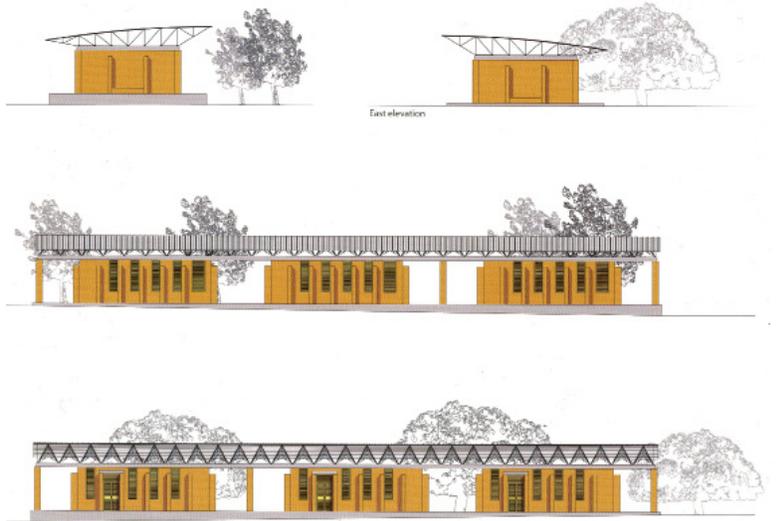
To achieve a sufficient sustainability standard, the project was based on the principles of designing for climatic comfort with low-cost construction, making the most of local materials as well as the potential to unite a community. It was also conceived as an exemplar that would raise awareness about the advantages of using local materials.

The building's form and materials derived from the various climatic considerations of the project. The main enclosures consist of three, rectangularly shaped classrooms that are arranged in a linear fashion and separated by covered outdoor areas that can be used for outdoor teaching and recreation. The overall structure comprises traditional load-bearing walls made from stabilized and compressed earth blocks that have been locally acquired. Concrete beams run across the width of the ceiling. Steel bars lie across these to support a ceiling also made of compressed earth blocks. Climatic comfort is also ensured by the overhanging roof, which shades the facades. The raised corrugated metal roof allows cooling air to flow freely between the roof and the ceiling. The walls, which are made of earth blocks, absorb heat, moderating the temperature of the classrooms (Kere 2009).

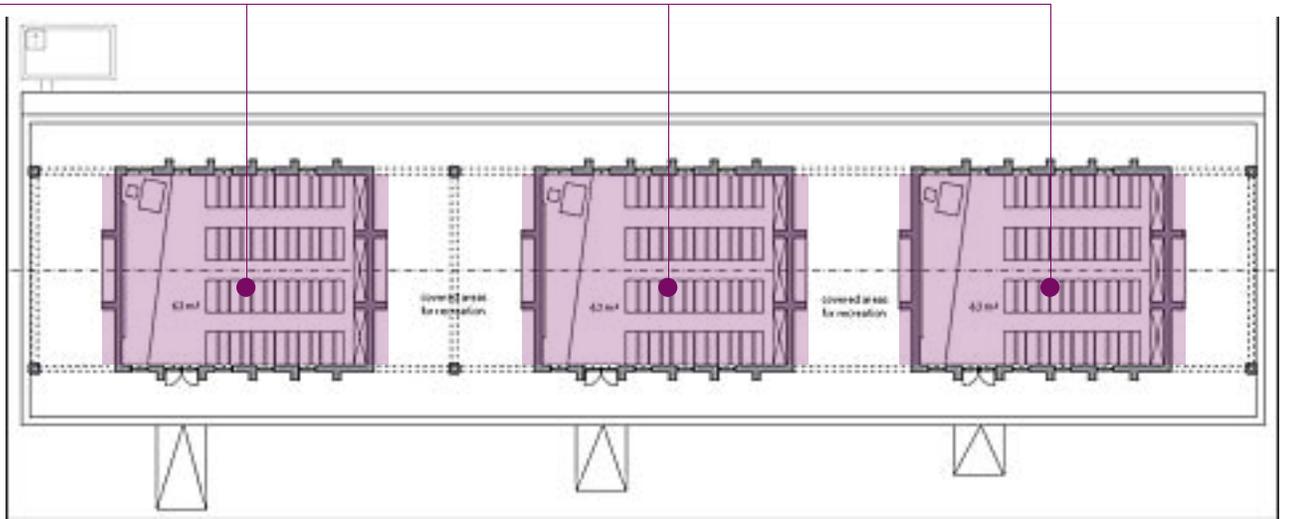
All the people involved in the project management were native to the village, and the skills learned here will be applied to further initiatives in the village and elsewhere. The way the community organized itself has set an example for two neighboring villages, which subsequently built their own schools as a cooperative effort. The local authorities have also recognized the project's worth: not only have they provided and paid for the teaching staff, but they have also endeavored to employ the young people trained there in the town's public projects, using the same building techniques (Kere 2009).



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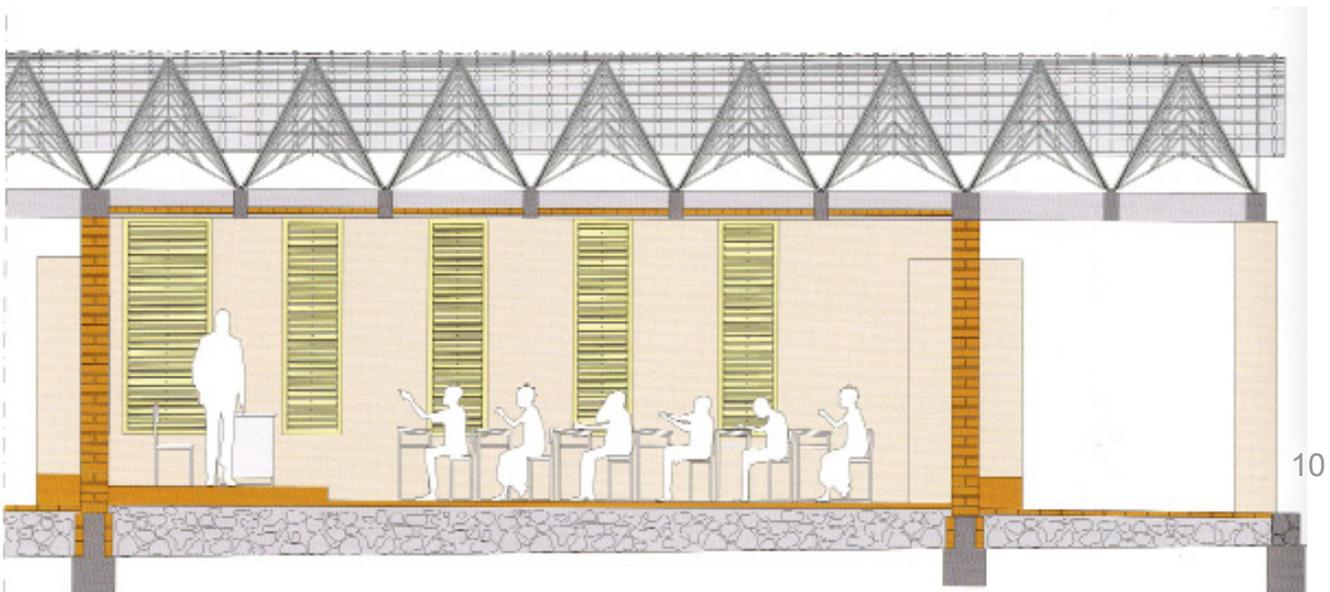


05

1 Primary School

The beauty of the Primary School is the way in which it united an entire community. All of the villagers were working together to accomplish the same task. As the construction began, untrained local villagers were asked to participate in the erecting of their new school. Upon completion, the village now has a new school as well as a formerly trained labor force. These once unskilled villagers now possess specialized skills that will earn them more jobs. The training that they have received can be passed to other members of the society creating an endless string of environmental knowledge.

The population around Nicollet Island is relatable to this case study, referring to the fact that the citizens around my site come from a background of middle to lower-class incomes. Although this is a lot more than the people of Gando have, American culture has deemed this income level as being less cultured and uneducated. In the midst of this, I plan to create a design that allows the less fortunate the opportunity to absorb the proper knowledge that can be passed on to other members of the community. The goal for my project is create a piece of architecture that can inspire people to inspire.

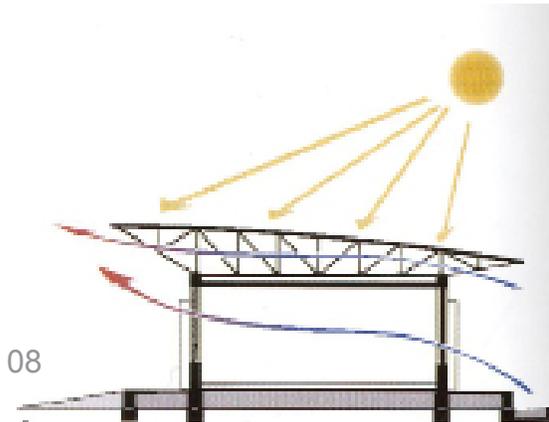




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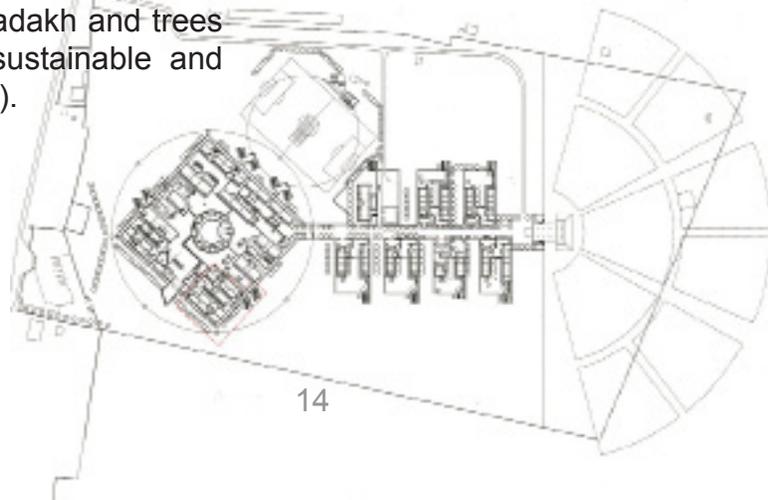


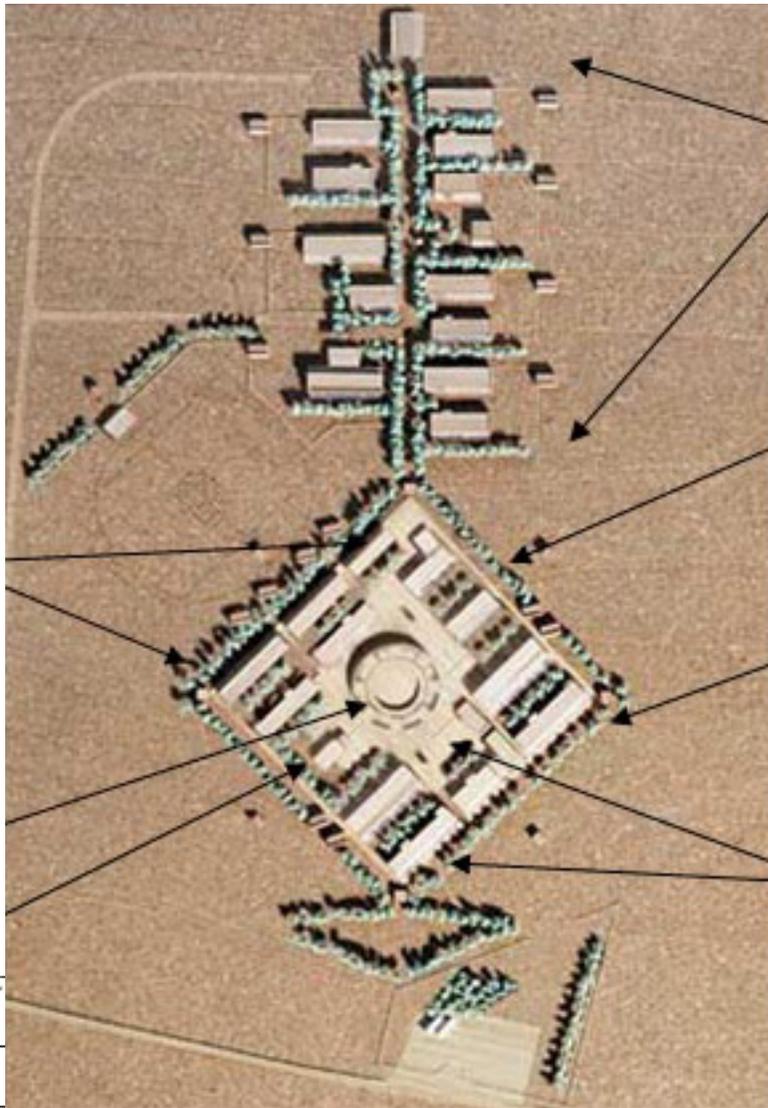
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Case Study_2 Lotus School

The Druk White Lotus School is located within the Tibetan Buddhist mountain community of Ladakh, India. It is an entirely sustainable project that was designed to be aware of its sensitive, ecological context. The aim of the project is to build and sustain a new school for approximately 750 students in the village of Shey, Ladakh. The client requested that the school offer a model academic curriculum that meets the needs of the local community (Arup Associates 2009).

The master plan for the Druk White Lotus School was inspired by the Buddhist tradition in Ladakh. By laying out the school buildings in the traditional form of a mandala, a series of symmetrical geometric shapes with significant spiritual resonance, the design itself maintains the traditions and culture of the community. The great innovation of the school is that it does not simply make use of typical Western notions of sustainable building design. The architects, ARUP Associates, considered the extreme climate of Ladakh and sought to understand local methods of construction, local architecture, and environmental physics in order to create an efficient design that would best address the needs of the school. The designers used construction methods based on the surrounding monasteries, which have survived up to a thousand years in the region's hostile conditions. They also made full use of local materials, using timber frames to reinforce the walls and roofs of the buildings. Tree plantations flourish in the valleys of Ladakh and trees grow very quickly, making them a sustainable and locally-sourced material (pbs.org 2007).





Residences

Science Blocks

Senior School

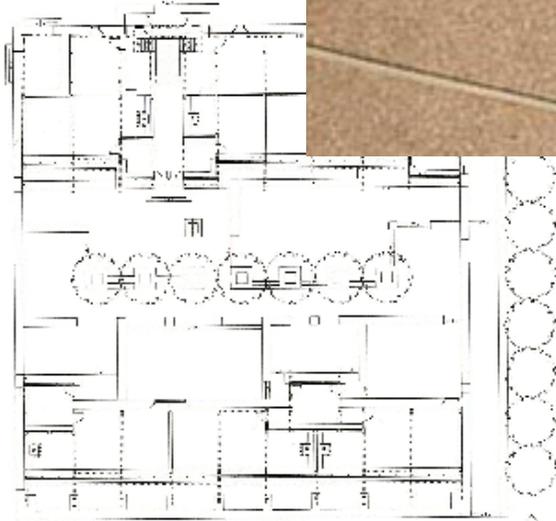
Junior School

Central Courtyard

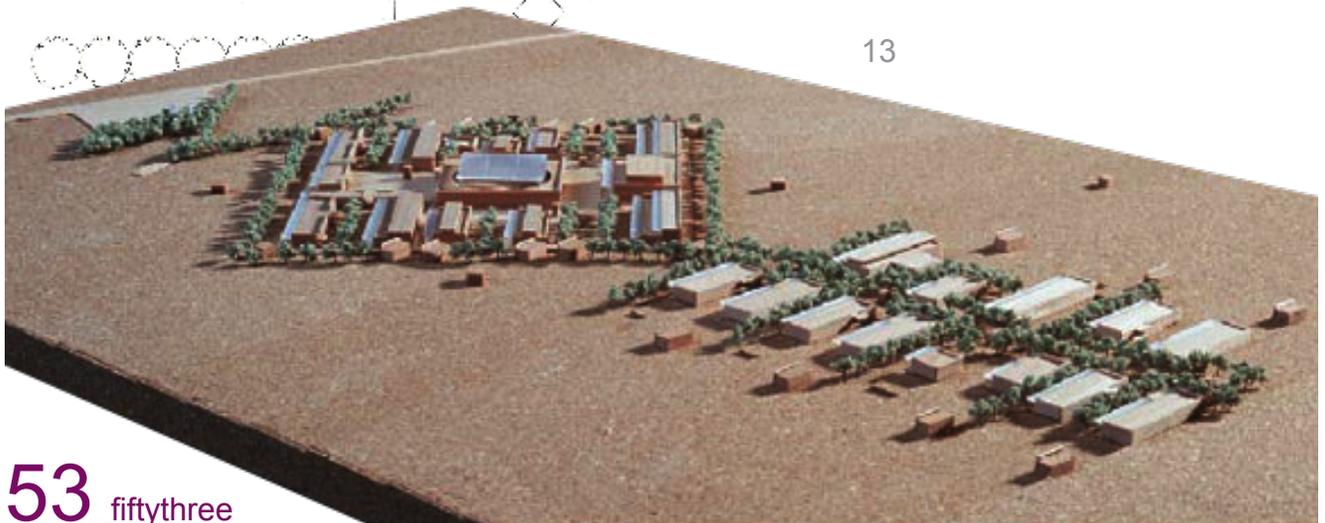
Nursery and Infant School

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Library



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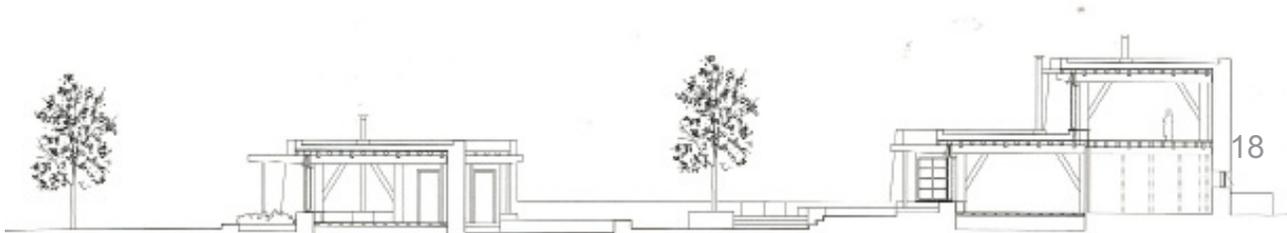


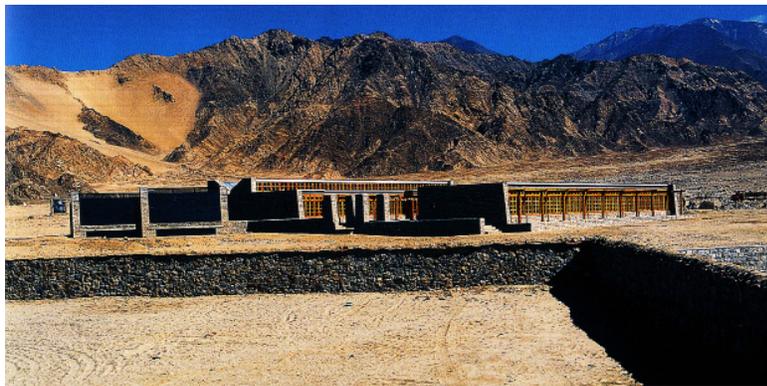
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Case Study_2 Lotus School

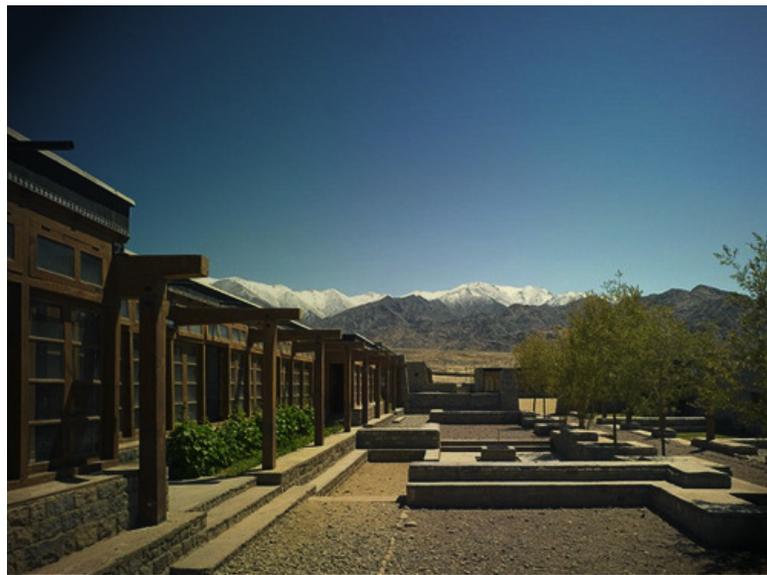
The Lotus school can be seen as the most spiritual academic oasis of the three. With its breathtaking surroundings, the Lotus school stands as a temple-like structure, only seeking to teach those that are worthy. It is remarkable that the students of this school come from many different remote areas of the Himalayan landscape. When you admire the architecture closely, you start to gain appreciation for the amount of work that was done in order to complete this project. The entire project was built by hand using the materials and techniques common among the people of this particular area

This design aids in the spiritual development that is to be considered while designing my thesis project. As stated above, the Lotus school has a religious feel to it that is unmatched by either of the other two case studies. While dissecting this project, the master plan reveals an Egyptian-like quality, where the strong axis through the center creates a ceremonial procession as it splits the grounds and moves into the main structure.

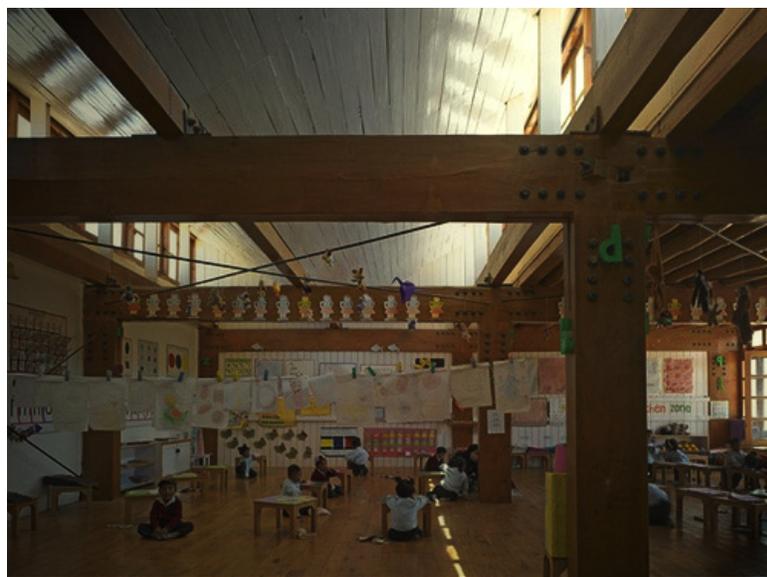




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Case Study_ 3 Willow School

The Willow School is an independent gold-level leed building located on a 34 acres plot of land near Gladstone, New Jersey. The Willow School is an independent, coeducational day school for grades K-8 that accommodates approximately 250 students. Their philosophy is built on the belief that children thrive in a setting that embraces the joy of learning and the wonder of the natural environment. The curriculum maintains a deliberate balance of rigorous academics and creative projects and emphasizes the school's unique commitment to environmental sustainability. This program, in the hands of talented teachers, fans the flame of each child's natural curiosity and desire to learn. The small classes create an atmosphere of trust and allow the teachers to focus on children's individual strengths and needs. Through the school's virtues program, children become knowledgeable and wise, curious and creative, responsible and confident.

The construction of the project was done in phases where each element is supposed to be perceived as both a separate entity and as a part of a whole. The first thing that you notice at the Willow School is the closeness of nature to each classroom. Each room has its own door so children can move outside with ease, and the amount of windows allow for spectacular views to the forested outdoors. Preserving the natural beauty of the area, the grounds design features include many outdoor learning spaces and constructed wetlands for the filtration of wastewater.

Natural meadows, butterfly gardens, rainwater harvesting and hedgerows are incorporated into the design of the campus. The school's goal is to teach in a building that not only houses the students but serves as a model to study responsible living. The school curriculum actively incorporates sustainable-living principles at each grade level.

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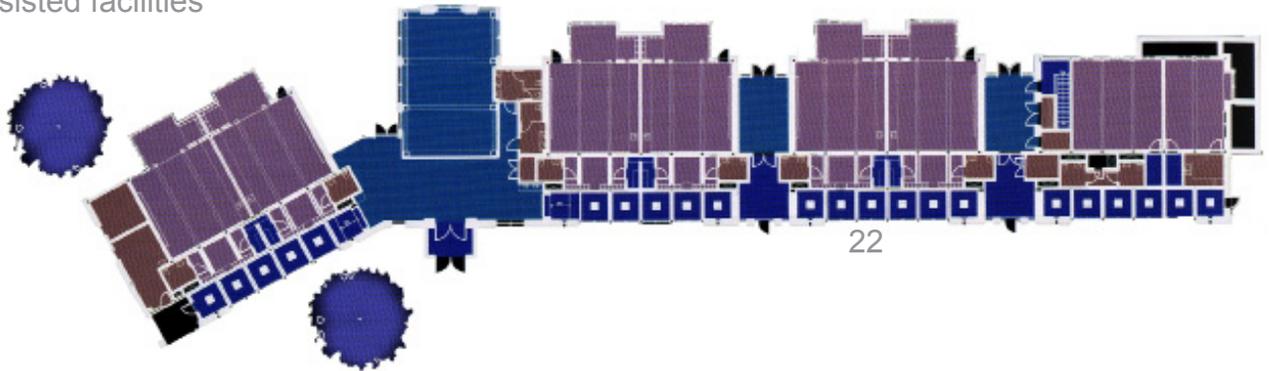


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The building's long, east-west axis allows for optimizing naturally obtained HVAC. This is a design strategy used by many environmentally assisted facilities

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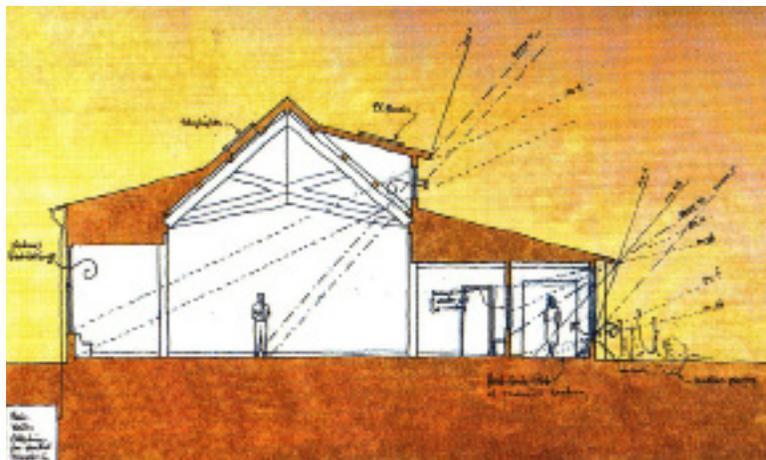


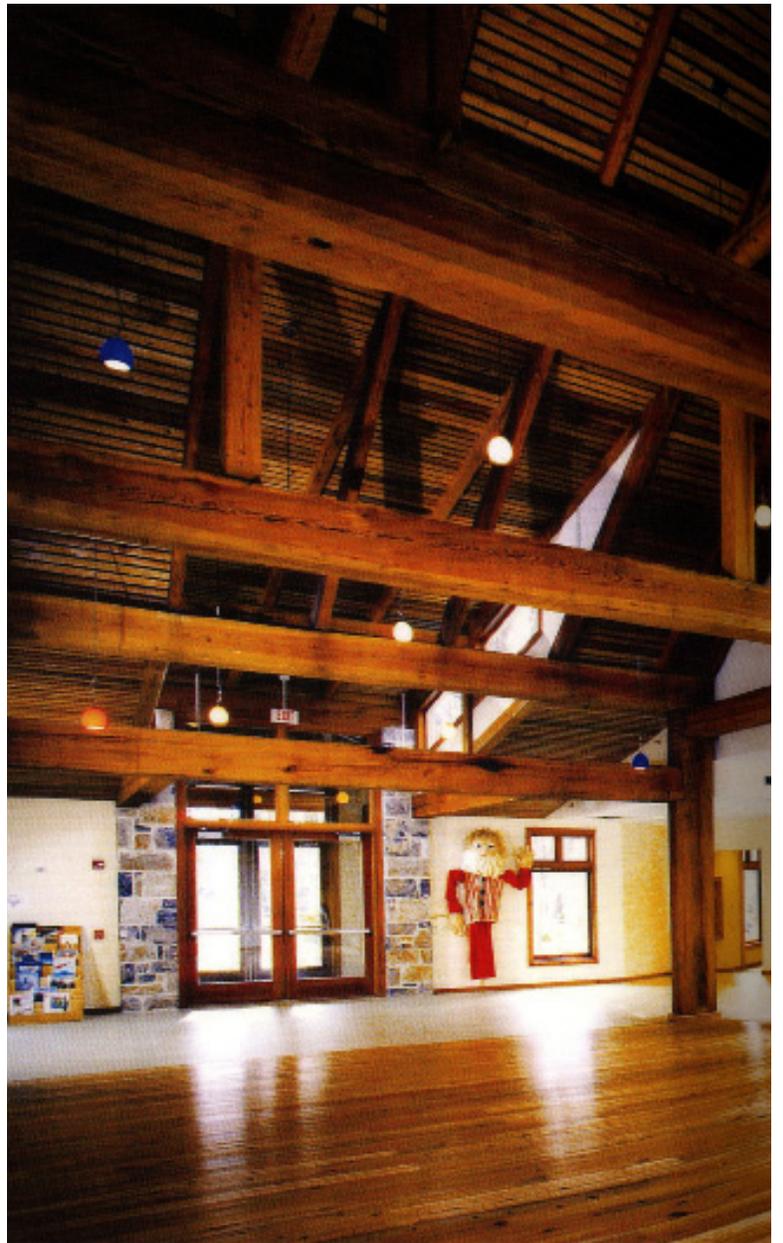
Case Study_ 3 Willow School

The distinguishing aspect of the Willow School is its organization, as well as its close proximity to natural vegetation. Between all three of the schools, the Willow School serves as the best model for the organization needed to establish an institute of creative educational practices.

This is the result of the school being located within an area of upper-class citizens. The parents of these students are very much involved with their academic lives. Parents seek to push their children to reach their maximum potential as citizens of this planet and they are more than willing to pay for it. The students that attend this institute are far better off than those of the Primary and Lotus Schools. The tuition for attending the Willow school is approximately \$20,000 a year. That is more than most people pay for college. There is limited attendance in that each grade consists of two classes of fourteen students to a class. This is different from the other two schools that offer their services to anyone that wish to attend.

Although the school serves as a functioning, environmentally friendly building, it lacks the majestic qualities achieved by the previous buildings. All three schools are isolated within their realms, yet the Primary and Lotus School seem to accomplish a more spiritual uplifting with their presence.





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The research that was conducted for this project made use of a series of case studies in order to understand the various aspects surrounding my particular design typology. The focus of the research studies circled around different schools that have implemented sustainability throughout the architecture as well as the curriculum. The projects that were chosen have both similar and dissimilar characteristics attached to their functional and spiritual meaning.

The most common characteristic of these three buildings deals with their overall impact on the environment. All three buildings have been designed and constructed in a way that preserves and provides for nature. Although each of the buildings rest on a completely different site, the designers involved exemplified environmental fortitude by sensitively addressing different sustainability issues that needed to be addressed in their particular design situation.

The Primary School and the Lotus School share a site characteristic dealing with their context, culture, and industry. Situated in the nonindustrialized, remote areas of Africa and India respectively, the two schools seem as though they had fallen from the sky only to end up in the locations where they now reside. The fact that these building are surrounded by vastness draws attention to the amount of importance that each serves. They command attention from their disciples as they sit high atop an architectural thrown that is unchallenged by any advisory within a great distance. There is a strong degree of communal togetherness that is achieved through the design and development of these structures. The two projects were both conceived as a means to enhance their society's way of life and well being.

The distinction with the site of the third building is that it is located on a densely forested area of Gladstone, New Jersey, a more populace, economically thriving environment. The students attending this school come from a far more educated and wealthy upbringing. Tuition costs for this institute range from \$20,000-\$22,000 a school year, after you have been formally approved to attend.

Case Study Summary

The Lotus School and the Willow School both educate in a more organized manner. As one of the poorest countries in the world, the People from Bukina Faso are mostly living a poverty stricken lifestyle where they have not had the resources to educate their children properly. The Primary school is significant because it now provides the villagers of Gando the education that is required to succeed.

With regards to their size, the Primary school is the smallest and the Lotus School is the largest. The smaller size of the Willow and Primary school create a great demand to study there. The orientations of the two are also the congruent. The linearly shaped buildings are positioned on an east-west axis in order to make us of sun and wind gains. This type of layout tends to be common in buildings that are trying to employ sustainable design principles.

The ideas that are taught throughout the Willow and Lotus school center around a Montessori view of how to develop a child's understanding of the world while the education within the Primary school is more general in nature. Both the Willow and the Lotus school stress a strong connectivity to the natural world.

Educating children is the theme throughout each of these institutes. They have all succeeded in providing humans the responsible knowledge that can be passed on from generation to generation. As promoters for positive development, they are better serving the environment simply by their existence on the planet. They can be seen as symbols and as models for how mankind can vastly improve itself through the education of sustainability.

Education has been around since the beginning of time. Before people could communicate ideas verbally, they would convey and receive information through body movement and imitation. As time progressed, education began to mold itself into society by way of an organized academic institute. Although it is practiced differently throughout many cultures, the basic ideas involve formally educating and developing children at a progressive rate from one defined point in time to another.

With the acceptance of education came the need for proper accommodations. This is when buildings began to be constructed with the specific purpose of functioning as places of academia.

There will always be the need for more schools as long as the population continues to increase. Everyday welcomes the mind of a child that will someday desire educational tranquility obtained through a higher sense of learning. Schools take on many forms in their appearance, size, and the education that they provide. The ideas that are passed through the halls of our institutes differ in the procedures that they use to instill certain values and responsibilities.

As an institute with a curriculum that is firmly based around the education of environmentally conscious behavior. My design thesis project strongly relates to the educational practices developed by Dr. Maria Montessori. As the first woman to earn a medical degree from the University of Rome, Montessori's first assignment placed her in charge of a center for mentally deficient children. As she observed these children, she grew increasingly concerned about their fate. This caused her to start a school for the mentally ill (Thomas 1979).

Historical Context

From her observation of these children, she formulated her own theory of child development which identified that there are crucial stages throughout a child's life where opportunities for development occur. These opportunities need to be engaged in order for the child to reach their maximum potential. If an opportunity is missed, the child's personality development is altered. She believed that extra attention was needed during a child's critical learning and development phases. E. M. Standing, author of the book *The Montessori Method*, notes that Montessori believed that:

“neither the ordinary nursery school, nor yet the environment of the home, had been made to suit the needs of the child.” (Standing pg.4)

Standing uses the paradox that Montessori created a 'natural environment.' Montessori is an approach to learning that uses hands-on techniques to stimulate the child's senses. This allows children to develop observational skills through observation, doing away with the conventional system of measuring educational standings. The Montessori Method instead focuses on sparking interest within a child's mind through presenting materials to students that will catch interest. The Montessori Method does measure the feedback of the child's qualitative performance in school. They are graded based on the instructor's observational analysis. Montessori states that:

“If we are to develop a system of scientific pedagogy, we must, then, proceed along lines very different from those which have been followed up to the present time. The transformation of the school must be contemporaneous with the preparation of the teacher. For if we make of the teacher an observer, familiar with the experimental methods, then we must make it possible for her to observe and to experiment in school. The fundamental principle of scientific pedagogy must be, indeed the liberty of the pupil;-such liberty shall permit a development of individual, spontaneous manifestations of the child's nature (Montessori 1964 pg.28).”

The Montessori educational method focuses on the fact that children learn and develop quite differently than adults. Standing goes on to explain this concept in further detail.

“The work of a child differs profoundly from that of the adult in nature and its aim. The work of the adult has an external aim, to produce something outside himself—whether it is to build a bridge, till a field or formulate a code of laws. It aims at building up transforming his environment; it is a work of conscious effort, directed to the production of an external result—in short, to help in building up a civilization (Standing pg.10).”

Standing says that this differs from the work of a child in that: “For him there does not exist this same clear consciousness of an external end to be achieved. The real aim of a child’s activity is something deeper, more vital, occult—something which springs from the unconscious depths of the child personality (Standing 1962 pg.10).”

The ideas that are presented through the Montessori Method of child development have been widely accepted within the institutional system of many educational facilities. The results of her Method fostered the development of schools that have chosen to strictly implement her way of teaching within their established curriculum. Schools that educate through nature exist all over the world and will remain as long as there is a continued demand for the education of natural and spiritual awareness.

The typology of my thesis design runs congruently with the ideas expressed through the Montessori style of child development. This fact places my design within the historical realm of past and current educational institutions that teach a child through nature and personal exploration.

Historical Context

The reason for the steady increase of nature-based education has stemmed from our society's emerging strides towards a greener way of life. Frank Ackerman, author of "Why we Recycle," acknowledges the fact that there has been a rise in society's effort to recycle.

"Both the extent of recycling and the speed of its expansion are remarkable. Curbside collection, in which a truck picks up newspapers, containers, and other materials from households, is fast becoming standard in urban and suburban areas (Ackerman 1997 pg.8)."

He delivers the statistic that in 1994, the number of people who received curbside service had reached 40% of the population, despite the fact that these programs had only been in the works for six years. The demand has swelled to the point that there are more curbside programs in the works to this day (Ackman 1997).

This is suggesting that there has been a gradual change in society's contribution to the planet. During the 1960s, there was an unfolding environmental awareness movement that sparked the urge to take action against unsustainable behaviors. The resistance to the creation of new landfills inspired communities with the idea of recycling as a means to limit the amount of waste. Between the years 1960 and 1970, thousands of recycling centers were established, collecting newspapers, glass bottles, and aluminum cans.

The early 1980s set a new standard for recycling production. It is at this point when the first mixed-material recycling centers were designed and built. These recycling centers were now capable of handling a wide variety of recyclable materials.

From 1990-present, the planet has seen its biggest surge in the movement toward sustainability. This is offset by the fact that the world is also experiencing its largest threat to the amount of natural resources remaining on its surface. Technology has allowed for an increase in our communicative efficiency. Ideas can be transferred from person to person at a rate that has far exceeded past capabilities. As advocates try to spread the word about environmental awareness, increased consumption stands as the barrier, restricting or subduing the environmental information trying to pass.

Entertainment, along with people's infatuation with celebrity, has created a situation where TV and movie stars have now become the official environmental role models for a new generation. A green lifestyle has become a fashionable trend among some of Hollywood's most influential stars. Their constant public displays of sustainable behavior have had a strong influence on the public in a variety of ways. Viewers seek to emulate those they admire.

The entertainment world has hypnotized society into thinking that they must do, say, and think the same as our largely more recognizable human counterparts. Although this can be seen as a marketing ploy, there are some genuine celebrity's that make use of what they have in order to make a globalized contribution. Large donations are made each year, increasing the funds of organizations that push for the advocacy of a greener future. Forget Beamers and Bentley's, instead, today's biggest stars are now racing down the streets behind the wheels of their new eco-friendly transportation.

In general, the movement for sustainability has been noticed by the majority of our population. It has become a matter of those individuals now taking it upon themselves to reverberate the information through their environmental awareness. An educational facility for the development of sustainable serves as a place where these philosophies evolve into a way of life. At this point in time there is both a need and a desire for the creation of building of this typology.

Historical Context

The physical context for this typology involves its placement within a city that, overall, has a steady concern for the sensitivity that must be taken toward our planet. Minneapolis, Minnesota, is a city that can typically be referred to as having a population with a greener state of mind. This does not indicate that every individual is a strong advocate for sustainability. It just means that compared to other cities and states, it ranks as a higher defender of the environment.

Within the city there exists a variety of communities that are exposed to different environments and possess separate income statuses. There are areas in which certain people are exposed to the uplifting presence of natural bodies of water, while others are held captive within the confinement of their urban prison.

There is a distinct presence of all four seasons as the site experiences all of our environments climactic actions. As opposed to warmer climates, the site is witness to the beauty cast by Mother Nature's natural state of evolution. Unfortunately, this is something that cannot be experienced by some individuals either physically or spiritually. Those that have been environmentally sheltered on the poetics of nature are unable to truly appreciate the offerings that earth provides.

The facility that I am proposing is meant to break the shackles of urbanized lock down in order to provoke a spiritual connection to the natural world. The purpose of this is to reveal the fact that one can develop a strong relationship with the natural world while placed within the less natured context of a larger city.

The educational goals for this project involve displaying properly conceived methodologies in order to provide the project with a focus to achieve environmental success through sustainable research and design. There is a strong emphasis on compiling enough information in order to address every single decision with an environmentally stable frame of mind. Attaining this knowledge will be conducted by means of physical and non-physical study.

Proper attention must be placed on the issues that deem a more sensitive way of thought as to not disrupt the process of design development. The involvement of children places high expectations on the prospected impact this building will have on a community. There is an obligation to create a piece of architecture that will provide for the citizens of its surrounding area.

Critical analysis of the project research will aid in the creation of the final design presentation. Throughout the process, a mixed use of exploration will seek to understand the underpinnings of sustainability's companionship with children as well as the rest of the world. By the end of the project, I hope to have gained a broader outlook on the influences that drive environmental design and behavior.

For the majority of architecture students, the thesis design project is the culmination of what seems like an eternity of architectural study. It is the project that you choose in order to better serve mankind through its design, function, and symbolism. At the beginning of this class, we were told that at any point in our professional careers, we should be proud to pull out our thesis book and show it to anyone. This speaks to the importance of the project and how it will follow us throughout the rest of our lives.

Thesis Project Goals

This is why it is necessary to follow through with the appropriate methods to create a piece of work that exemplifies a professional understanding of project delivery. The plan to accomplish this involves the rigorous critique throughout the entire phase of research, design, and completion.

The location of the design adds to the level of personal attachment to the project. Minneapolis is a city that I have been familiar with for a long time. Residing in one of the closer suburbs to the city, my friends and I were able to escape our current surroundings and explore a city that was not exposed to us on a daily basis. Entering the city meant entering an endless opportunity for cultural stimulation. Because it was something that we could not experience every day, we learned to cherish the memories of our time in the city.

Designing with this in mind, my goal is to establish an everlasting memory in the minds of children. There needs to be a strong enough presence that the memories of this place resonate throughout life and spill out as majestic stories of how one person experienced a city for eternity.

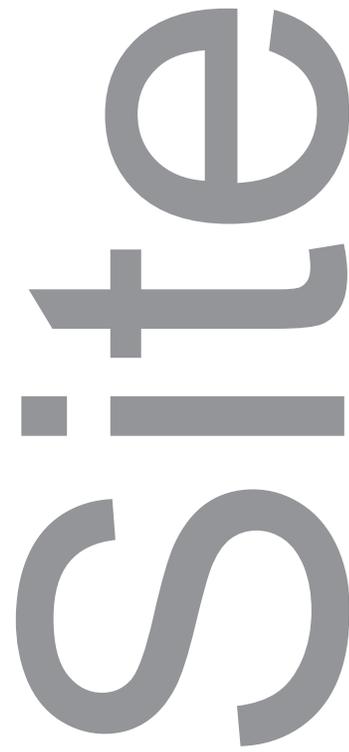
Another personal goal for this project is to increase the development of my own personal well being. The research that I have done up to this point has already had an impact on the way that I am understanding the consequences of my environmental actions. Throughout the stages of this project, I hope mature into an individual that can take the practices learned and apply them more thoroughly to everyday situations.

Located within the heart of Minneapolis, Nicollet Island is the only inhabited island along the Mississippi River. Unnoticeable to some as they pass through the island, are the different structures which include Nicollet Island Inn, the Nicollet Island Pavilion, and DeLeSalle High School. The number of residences on the islands includes 22 residential homes and three multi-family residential buildings.

The most distinguishing characteristic of the site is the unavoidable presence of the Mississippi River as its rapids roar through St. Anthony Falls. The noise of the water racing past the forested island as one steadily embraces nature while gazing off into the tractor beam caused by the lights of the Minneapolis skyline.

The main transportation to the island is accessed by Merriam St., 1st Ave. and the Hennepin Avenue Bridge. The bridge stands strong in presence as it connects downtown to Northeast Minneapolis. There is a major bus route that is within close proximity to the island allowing for people to use an alternative and greener way to travel to the site. Once you are on the 48 acre island, you can make use of their park land and trails to explore an area of the city that is hidden beneath the towering skyscrapers of downtown Minneapolis.

The site experiences all forms of natural climactic forces. As a northern Midwest city, Minneapolis is characterized as having unbearably cold winters where temperatures can drop to exceedingly low temperatures. Summer months are hot, and at sometimes considered humid or muggy. These differences make for a considerable degree of temperature separation throughout the course of a year. Fall and spring experience average temperatures that create extremely comfortable outdoor temperatures. These times are ideal for taking walks along the island as day turns to night and the bright lights reflect off of the mirror-like Mississippi river.



Site Analysis

There is a high school on the site which causes a high level of pedestrian and vehicular traffic during certain periods of the day. The main source of constant vehicular traffic is the Hennepin Ave Bridge, which connects downtown to northeast Minneapolis.

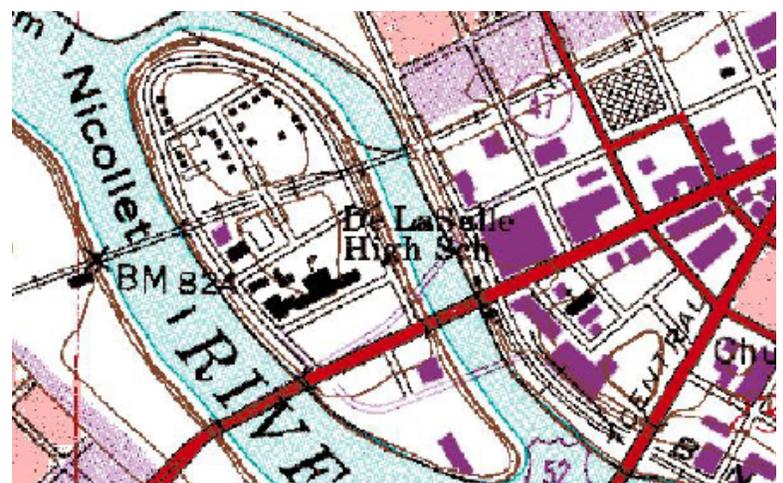
Positioned away from the traffic, all of the residences are located on the northern tip of the island, opposite of the proposed site. Being built in the same era, the houses on the island appear similar in shape, size and color palette. The largest structures on the site are by far DeLeSalle high school, Nicollet Island Inn, And the Nicollet Island pavilion.

The terrain of the island is modest with no major inclines/declines in elevation. Surrounded by a ring of forestry, the site is home to a good amount of natural vegetation with the majority of it being located at the northern and southern ends of the island. The wildlife inhabiting the site mostly include the birds that nestle in the trees and the fish lurking beneath the misty drop of the falls as they continue their way along the river.

Situated within a bustling metropolis, the citizens of this north Minneapolis have access to all of the major utilities commonly used by today's people. Restrictions of such utilities are by no means compromised by the selection of the site.

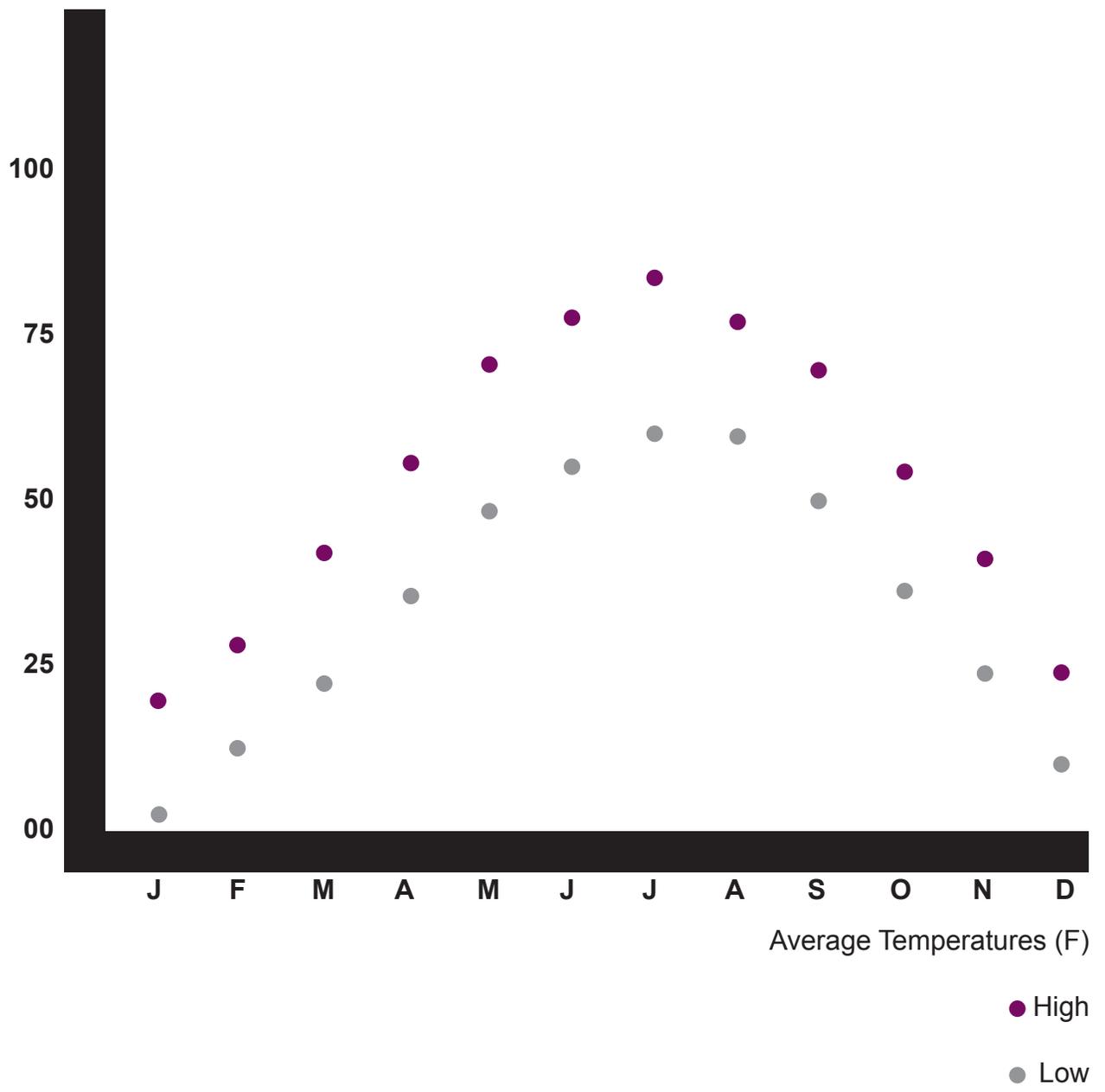
Further research, and studies done through site visits, will allow for the design of this building to unfold into what it needs to be. The site will begin to speak in a way that is unattainable through conventional research methods.

_U.S. Geology Survey



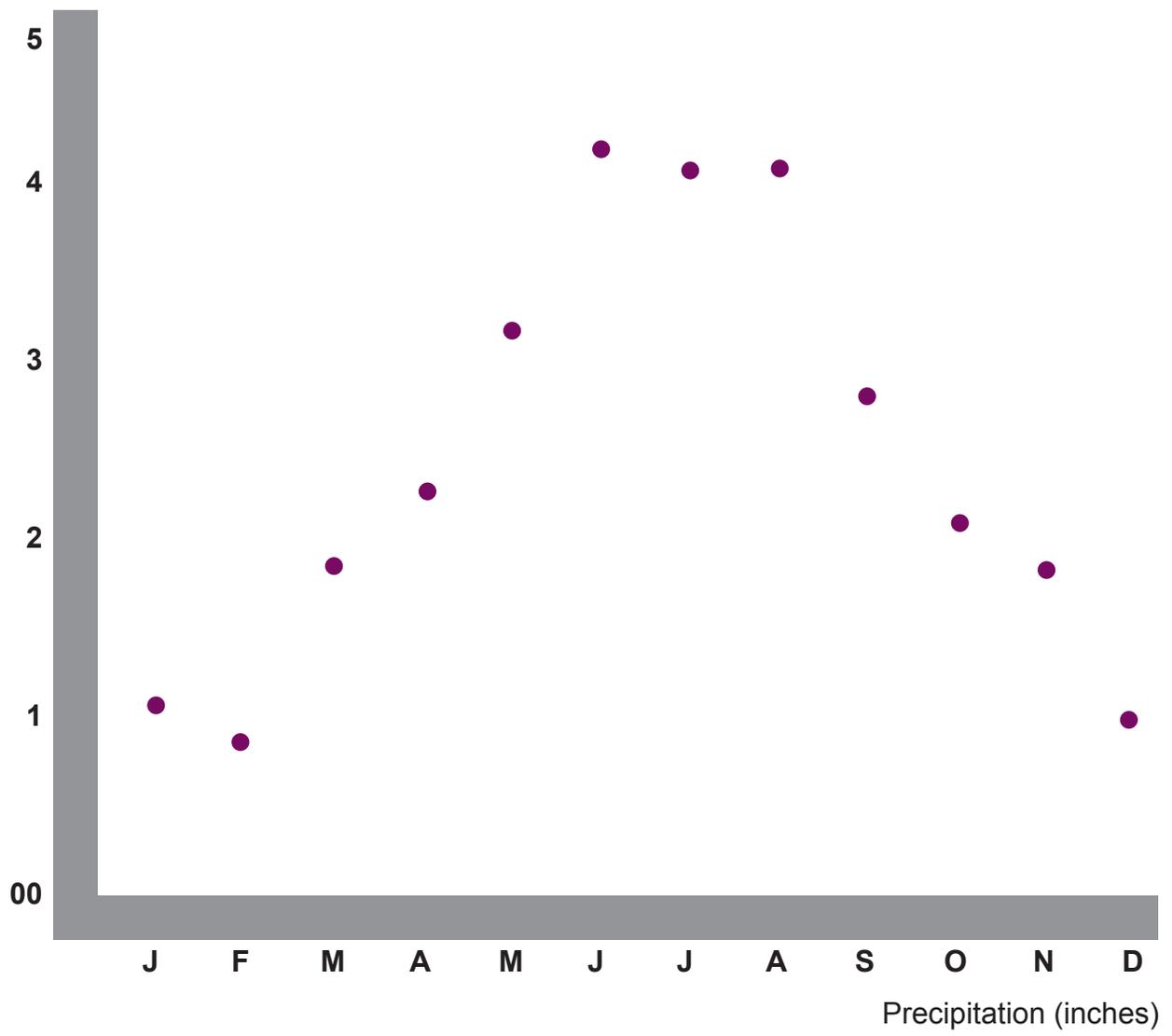
Site Analysis

Temp.



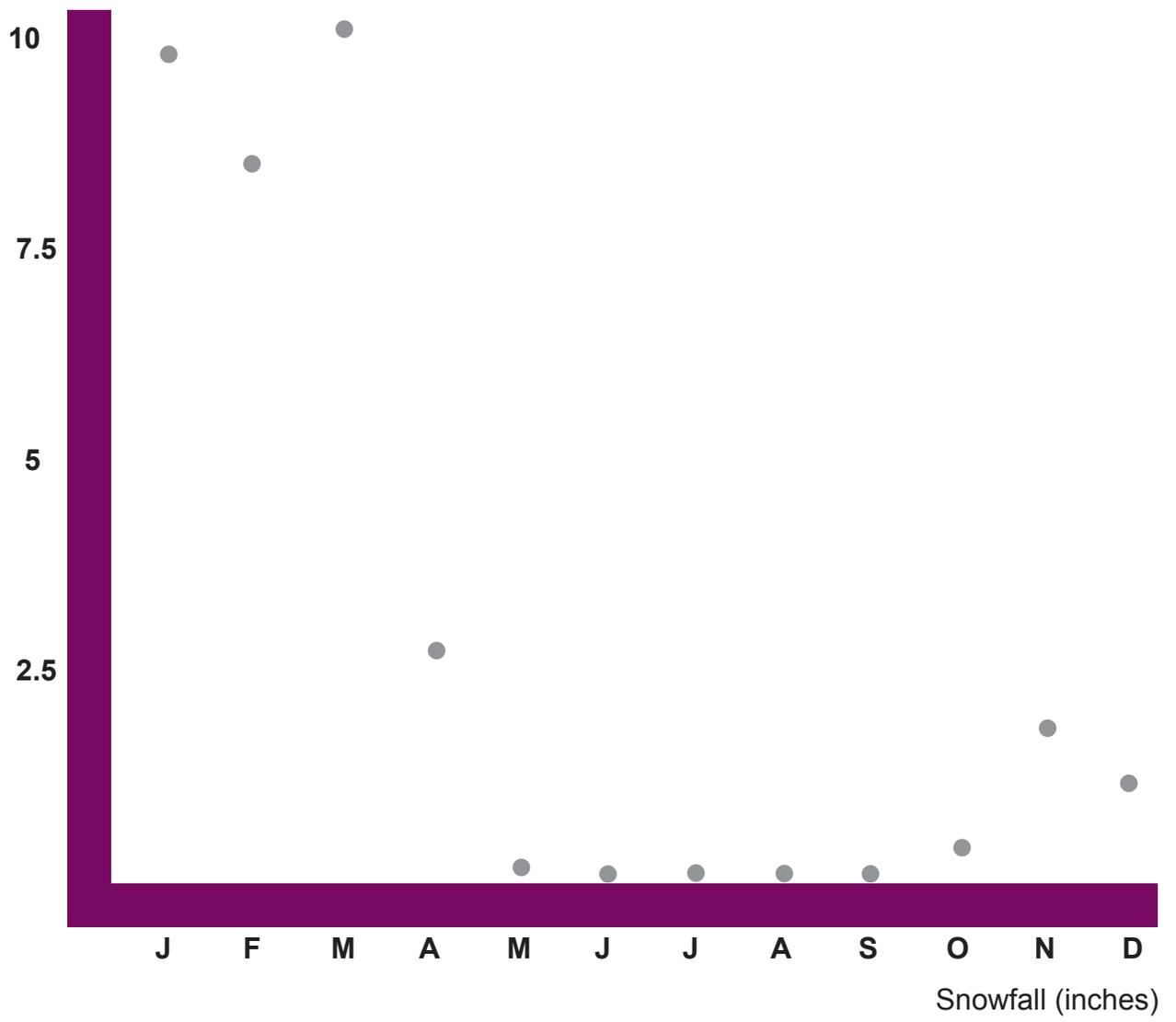
Rain

Site Analysis



Snow

Site Analysis





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Views



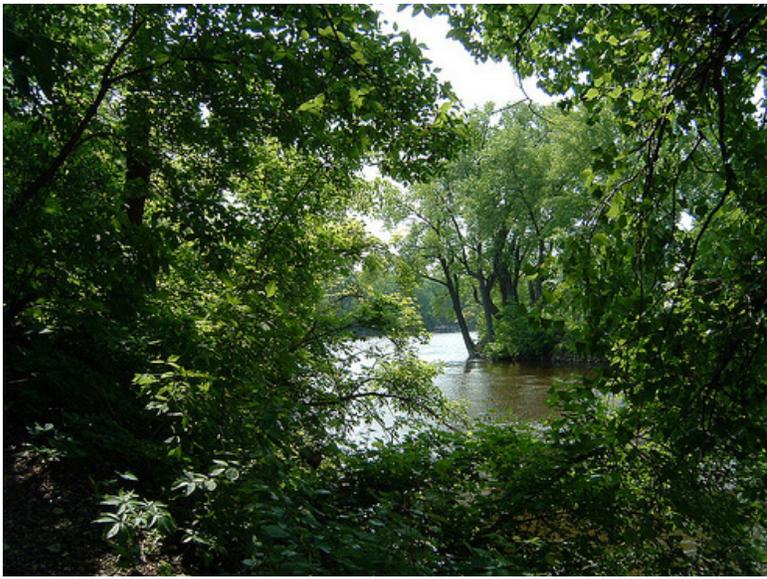
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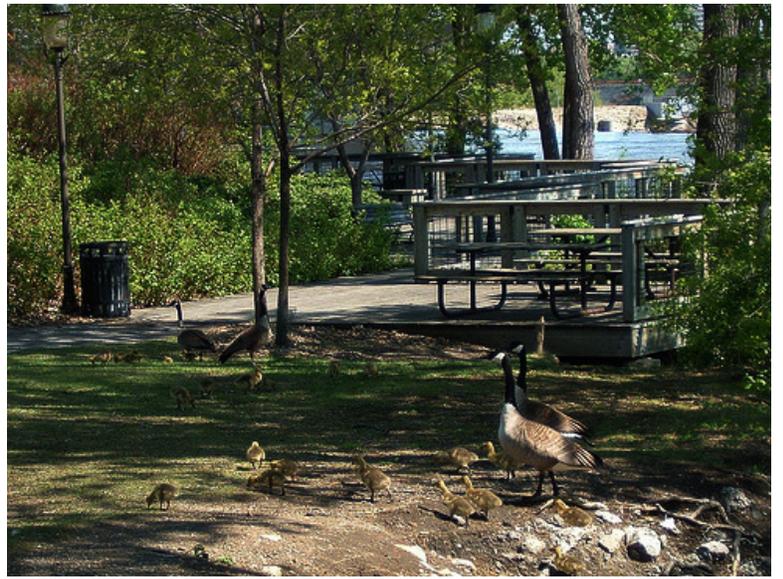


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Views

Site Analysis

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Programmatic Requirements

There will be approximately 5-7 spaces designed in different ways that address sustainability issues around the site and serve as the nucleus to the entire design. There will be multiple spaces around each classroom in order to allow for the stimulation of indoor/ outdoor circulation.

Branches of the classrooms will include a series of other spaces specifically designed for a particular area of focus. These auxiliary learning spaces would include music studios, design studios, cooking displays, gardens, and

All of the design elements will harmonize with nature, the child, and the city. Every space will have a separate and distinct connection to the outside world.

Classrooms_3	@ 400 sf
Studio_1	@ 2000sf
Kitchen_1	@ 800 sf
Woodshop_1	@ 900 sf
Library_1	@ 1000 sf

Gardens_numerous

Daycare_1	@ 1500 sf
First Aid_1	@ 300 sf
Offices_2	@ 200 sf
Storage_3	@ 100 sf

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Reference List

S e r v i c e s

Page 23

Image 1 <http://images.google.com/mgres?imgurl=http://arthritisfoundationwpa.files.wordpress.com>

Page 24

Image 2 <http://www.bing.com>

Page 49

Image 3 <http://www.kere-architecture.com>

Image 4 Simeon Duchoud

Image 5 <http://www.kere-architecture.com>

Page 51

Image 6 <http://www.kere-architecture.com>

Image 7 <http://www.kere-architecture.com>

Image 8 Ford, A. (2007). Designing the Sustainable School

Image 9 <http://www.kere-architecture.com>

Image 10 Ford, A. (2007). Designing the Sustainable School

Page 53

Image 11 <http://www.dwls.org>

Image 12 Ford, A. (2007). Designing the Sustainable School

Image 13 <http://www.dwls.org>

Image 14 Ford, A. (2007). Designing the Sustainable School

Page 55

Image 15 Caroline Sohie

Image 16 <http://www.flickr.com/photos/fast-company>

Image 17 <http://www.flickr.com/photos/fast-company>

Image 18 Ford, A. (2007). Designing the Sustainable School

Page 57

Image 19 Ford, A. (2007). Designing the Sustainable School

Image 20 Taylor Photography

Image 21 Willow School

Image 22 Ford, A. (2007). Designing the Sustainable School

Page 59

Image 23 Taylor Photography

Image 24 Willow School

Image 25 Ford, A. (2007). Designing the Sustainable School

Page 71

Image 26 <http://terraserver-usa.com/>

Page 79

Image 27 <http://www.flickr.com/photos/mulad>

Image 28 <http://www.flickr.com/photos/nateb>

Image 29 <http://www.flickr.com/photos/brettallen>

Image 30 <http://www.flickr.com/photos/70467959@N00>

Image 31 <http://www.flickr.com/photos/jollyroberts>

Image 32 <http://www.flickr.com/photos/jamiealisonkoehler>

Page 81

Image 33 <http://www.flickr.com/photos/mulad>

Image 34 <http://www.flickr.com/photos/mulad>

Image 35 <http://www.flickr.com/photos/23467140@N08>

Image 36 <http://www.flickr.com/photos/mulad>

Image 37 <http://www.flickr.com/photos/11096773@N05>

Image 38 <http://www.flickr.com/photos/jeremyryancarr>

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Personal Identification

~~my people, too much consumption~~

~~liter~~

Society

Social psychology of sustainability

primary theories of child development

