Development of the Youth

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Development of the Youth

A Design Thesis Submitted to the Department of Architecture and Landscape Architecture of North Dakota State University by Jeremy Michael Bickel.

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

Primary Thesis Advisor

Thesis Committee Chair

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Thesis Abstract

This thesis presents research on the benefits well designed youth centers can have on children as they grow into adulthood. The typology of this project is a center for the study of children maturation. The site is in Minot, ND, which is in the midst of major growth and development in response to the booming oil industry. The project's theoretical premise/unifying idea is: Architecture can contribute to a better understanding of the process of childhood maturation.

Keywords

Youth Center
Development
Child
Interact
Grow

Thesis Problem Statement

How can design contribute to the development of the country's youth?

Statement of Intent

Statement of Intent

Project Typology

A center for the study of childhood maturation.

The Claim

Design can act as a positive force in the development of young childhood.

Supporting Premises

Properly designed buildings have been shown to enhance the development of young children.

Childhood development is influenced in part by forces outside of the family.

Young children develop in groups as well individually.

The positive development of children can be assured through the experiences they receive in early childhood education.

Statement of Intent

Theoretical Premise/Unifying Idea

Architecture can contribute to a better understanding of the process of childhood maturation.

Project Justification

As the city of Minot grows rapidly, as the population expands, the children of the city will grow up in a booming economy. The ways that they grow and mature in this environment can be studied and provide insight into characteristics the built environment needs to exhibit to help see these children through to maturity.

Proposal

Narrative

How can design contribute to the development of the country's youth? This project will examine how design can influence the maturation of children and young people. The project is located in Minot, ND, on a site that was once a junior-highschool, which had to be demolished and removed from the site due to flooding of 2011.

The city has experience a great deal of growth in the past five years in response to the booming oil industry. With this city growth, there has been an increased need for housing and development of the city. The city and it's community also faced a tragic flood in the spring of 2011, which left many of it's residents without any place to live until FEMA began acting in the community. Nature's lash and man's need to produce oil for the country, has forced Minot to adapt to quick changes.

As the city continues to grow, there needs to be a safe place where the youth can go after school hours to interact and develop needed skills as they mature into adulthood. Without social interaction and sense of belonging to something or someone, where does that leave a child psychologically? By providing a built environment for these children, it can help redevelop a connection to their family, friends, and surroundings. The main action of my thesis is to provide a new safe life for the youth, through the intent of my design.

User/Client Description

OWNER

This childhood maturation research center is to help understand and better the maturation development of the youth of Minot, ND. This center will be owned by the Minot Public School System; managaed by afterschool program directors, college child education students, and other volunteers experienced with the youth.

USERS

The main users of the building and it's program will be the youth of Minot. The building will need to be easily accessible and usable for anyone with a disability. There will be spaces available (interior and exterior) for the interaction of children with one another, along with spaces for social development. The building will acquire steady usage during the week after hours of when school is let out, as well as during the weekend. There will be a minimal requirement for parking, which is intended for staff and parents or guardians, whom are picking up or dropping off children. Most children will arrive on afterschool bus routes, bikes, walking, or parent drop off. The space is open to the youth, so there will be many different cultural, social, ethnic and economic backgrounds of the children using the facility.

Major Project Elements

SNACKS/KITCHEN
The snack/kitchen will be an area where the instructors can make meals or snack for the attended youth, or the instructor can teach how to do basic cooking skills.

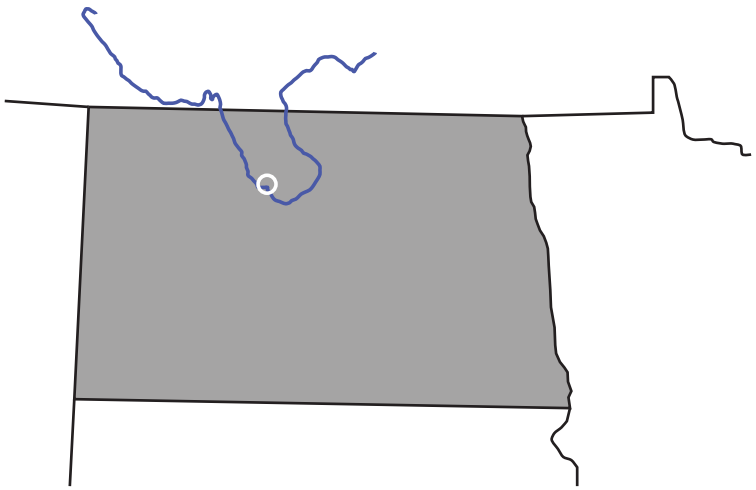
OUTDOOR ACTIVITY AREA
The outdoor activity area will be for outdoor activities and sports that the youth can participate in on days that the weather cooperates.

COMPUTER ROOM
The computer room will be an area where the youth can browse the internet and explore different creative programs which aren't usually available at one's home.

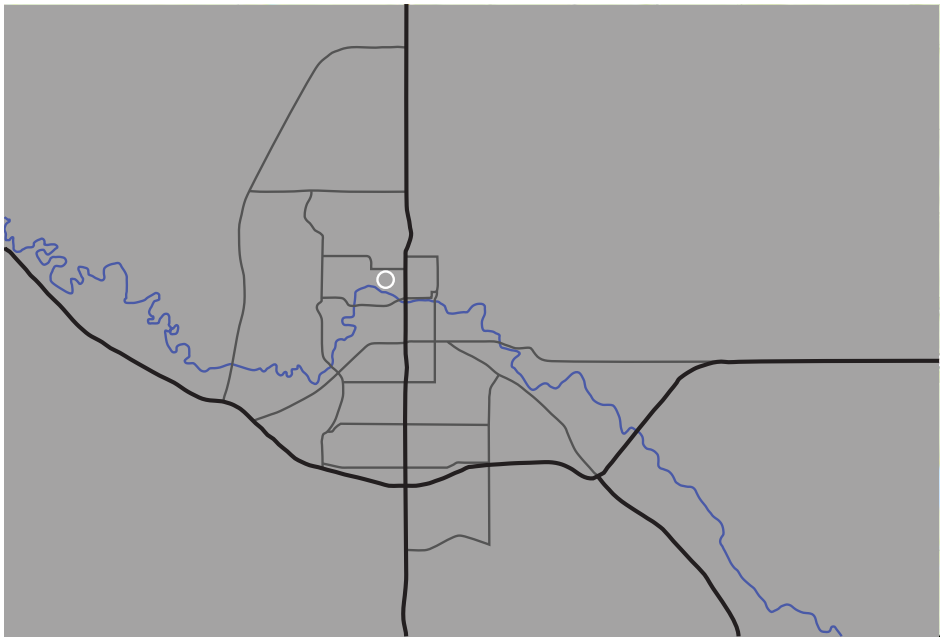
COMMONS
The commons area will provide an area for the youth to eat and interact in a way where the noise they make isn't much of an issue.

MULTIPURPOSE GYMNASIUM
The multipurpose gymnasium will be an area where the children can have large group indoor activities and can also have performances.

ACTIVITY ROOMS
The activity rooms will be areas where the instructor can lead the youth in activities as well as work on art projects.



North Dakota. Figure 13-1



Minot, ND. Figure 13-2

Site Information

REGION
Minot, ND is located in the central region of North Dakota. The city is loccated on the lower end of the Souris River, which starts and ends in Canada.

CITY
Minot is to be considered one of the larger cities in the state of North Dakota. The population of Minot according to the 2010 Census is 40,888. The city became in existance in 1886 when railroad work stopped for the winter.

Site Information

SITE

The site that I chose is centralized in Minot and is in a part of the city that has been there for most of the cities life. The block that my site is on was once a middle school with grades 6-8 but had to be demolished the summer of 2012 due to flooding of the Souris River in the spring of 2011. Since the chosen site was once a middle school, there is a strong history and connection with the youth being on and around the site. The middle school that once occupied my site has moved about one mile to the north, making my site between the two public middle schools. There are also a few elementary schools that are within a mile of the chosen site.

The site is one block south of the Minot State University and there are multiple bus routes that are within a block of passing my site.

Figure 14-1

Site. Figure 15-1

Project Emphasis

Childhood development has mutiple influences that will effect the maturation process. Without a safe area for interaction with others of the youth, where do social skills of similar age groups develop? This thesis is trying to demonstrate and understand how architecture can contribute to a better understanding of the process of childhood maturation. The design will be discovering how certain elements of the architecture can have positive influences on the maturation process of youth whom are occupying the spaces. The typology of the project is a center for the study of childhood maturation in Minot, ND. This will be a space that is emphasized for the maturation period of the youth of Minot and will encourage the occupants to interact and develop socially.

Plan for Proceeding

RESEARCH DIRECTION

In order to fully understand the scope of my project, I will be conducting my research on the Theoretical Premise to better understand psychy and sociological aspects of the youth and the built environment. Research will also include Historical Origins of Minot, Site and Typology History, and Programming.

DESIGN METHODOLOGY

Research for this project will be conducted using a Mixed Method, Quantitative/Qualitative Approach. This data will be gathered, analyzed, interpreted, and reported through graphics and text throughout the entire research and design process. Quantitative statistics and scientific data will be gathered and analyzed through archival searches, site visits, and experimentation. Qualitative data will be collected from direct interviews, archival searches, and local surveys.

DESIGN DOCUMENTATION

Documentation will be collected digitally through scans, photographs, and writing. I will have a sketchbook that will have sketches scanned from it each week to be documented. There will also be a physical documentation of models made throughout the process, which will be displayed at my studio space and documented through photographs. The documentation of my progess will be done weekly and then backed up on an external hard drive. My final work will then be submitted to the thesis board on a DVD. As a final documentation, my thesis will then be uploaded to the NDSU Library Digital Repository, which then can be viewed by other scholars.

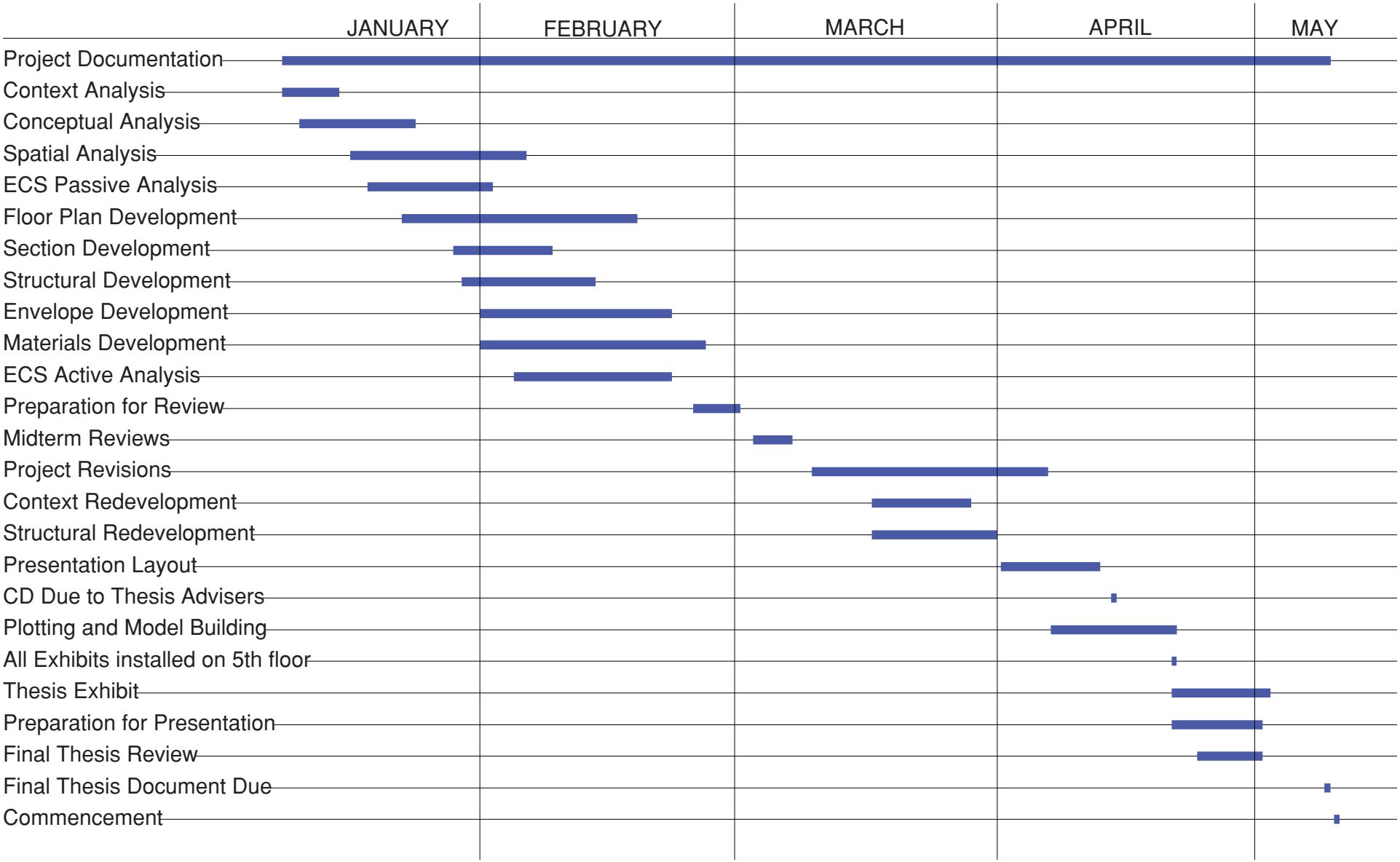

JANUARY
FEBRUARY
MARCH
APRIL
MAY
Project Documentation
Context Analysis
Conceptual Analysis
Spatial Analysis
ECS Passive Analysis
Floor Plan Development
Section Development
Structural Development
Envelope Development
Materials Development
ECS Active Analysis
Preparation for Review
Midterm Reviews
Project Revisions
Context Redevelopment
Structural Redevelopment
Presentation Layout
CD Due to Thesis Advisers
Plotting and Model Building
All Exhibits installed on 5th floor
Thesis Exhibit
Preparation for Presentation
Final Thesis Review
Final Thesis Document Due
Commencement

Figure 18-1

Previous Studio Experience

2008-09
Fall Semester - Darryl Booker
Tea House
Boat House

Spring Semester - Joan Vorderbruggen
Dance Academy
Sustainable Dwelling

2009-10
Fall Semester - David Crutchfield
Probtsfield Farm Visitor Center
Fargo Analysis
Wax/Snow Sculpture
NDSU Library

Spring Semester - Milton Yergens
Urban Multi-Use
Agricultural Facility

2010-11
Fall Semester - Don Faulkner
Highrise
KKE Competition

Spring Semester - Don Faulkner / Frank Kratky
Marvin Windows
Williston, ND City Plan

Summer Semester - Bakr Aly Ahmed
Highrise

2012-13
Fall Semester - Paul Gleye
Downtown Fargo Urban Design

Program

Theoretical Research

Childhood maturation is a time period of a youth's life that can be impacted and directed in many different directions due to the surrounding influences of family, friends, and environment. Without guidance and direction, where does the youth end up before and after transition into adulthood? My theoretical premise clearly states that architecture can contribute to a better understanding of the process of childhood maturation.

"Childhood is a social construct, a contested space through which children navigate and adults negotiate their own fears, desires, and beliefs. Childhood as a concept, then, is not about particular children - their lived experiences, ideas, beliefs, or actions - but about the cultural models, or assumptions, of who children are, who they become, and how they should get there" (Chappell, 2006). In regards to this quote, is a child's future pathway already laid in some direction primarily due to culture, without being given a chance to manipulate that direction? Parents have the ability to dictate the route a child's life will head through their own beliefs and teachings.

Chappell quotes the Department of Education, "Economically disadvantaged youth who participated in constructive learning activities for 20-35 hours per week performed better in school than their more passive peers" (Chappell, 2006). I believe that extra constructive learning activities (such as a sporting practice or club) can help give a child extra confidence and motivation when it comes to academics, but just because a child doesn't participate in as much extra constructive learning activities doesn't necessarily mean they will perform poorly in their academics. The child that is doing more passive activities could be reading books or doing other things that increase knowledge or stretch the imagination.

She also states, “Given the other administrative materials provided through No Child Left Behind that I analyze, the policy suggests children are active and academically successful (i.e., productive) when they attend a state regulated educational program, whereas those children who do not attend such programs are passive, unproductive, unsuccessful, and by extension, perhaps, not good people. It is hard to imagine youths not participating in after-school programs as truly passive: not moving, thinking, experiencing, collaborating, arguing, or any of the other mental and bodily actions we perform on a daily basis” (Chappell, 2006). The idea that children who do not attend state regulated educational program are passive doesn’t seem to be so true to me. What about private schools? Are the children at private schools not good people? I believe they are still getting interaction with other children and have some kind of curriculum structure being taught to them. The children are still getting some kind of guidance and discourse in the home setting from the parents.

Interactions in Education

When placed in an educational setting and encouraged to express feeling about topics through conversation, children experience the collective development of reasoning through arguing or emulation. This educational environment is where the solid baseline of these social and psychological fundamentals are laid out. As Pontecorvo states, “it is possible to create the proper motivation to think and learn in children when interacting and speaking in a group within the context of primary or secondary schools” (Pontecorvo, 2004).

Pontecorvo discusses four related issues dealing with interaction and speaking in a group:

1. “Group interaction is not only a communicative facilitator but also a means of sharing the pain of thinking and reasoning and the difficulties of facing new problems. Such interaction is a strong facilitator of thinking, because these pains and difficulties associated with learning can be shared in a process of cooperative thinking” (Pontecorvo, 2004).

2. “It is critical that teachers mirror or rephrase what children have said so that they can elaborate on their discourse. Requests for information or explanation were not very effective in having children produce more elaborate answers. With strong oppositive sequences between children, the teacher’s verbal behavior was less relevant” (Pontecorvo, 2004)

3. “Formal and informal educational institutions must make it possible for learners and apprentices to try other routes, to take unexpected turns, to find their way while risking making mistakes. Schools (and families) are socialization places in which it is possible to practice skills rather freely, without negative practical consequences” (Pontecorvo, 2004).

4. “Consequently, a significant change in traditional concept of learning is needed. Learning is not just a change in the skills and/or in the conceptual structure of an individual mind. An important part of learning is critical for adult life concerns, including ways of behaving, of interacting and working with others, of facing problems, of practicing diverse scientific or technical methods, and of actively participating in communities of practice, which all have a cultural, normative background. This is evident in any professional training, be it that of the musician or the mechanic: Learning a job is not only technical training but also a complex process of cultural and professional socialization” (Pontecorvo, 2004).

These are all valid points that Pontecorvo states relating to the interaction in the educational atmosphere. An educational environment allows the child to cope with other youth about issues in their lives, along with different viewpoints on educational topics. Cooperative thinking is a skill that can help progress children’s ideas and concepts, as well as help build relationships with others. This environment is where children learn to communicate effectively with one another as well as communicating to a teacher or other adults.

Family Interaction

Family dinner conversations with children provide an opportunity for complex discourse. With this discourse, the children can elaborate on the stories or activities that were explored on that day; allowing the children to respond to requests or accounts by the adult.

Pontecorvo states about family conversation, " As might be expected, discourse about rules and values is common in family conversations. Parents want to teach their children how to behave properly and to be convinced of the need for doing so; but when topics are complex (e.g., sexual and genre education, relationships with other people, conflicts about rules), parents sometimes cannot solve their children's problems. In general, there appears to be a clear difference when problematic discourse concerns children's breaking rules: Parents frequently announce possible negative consequences if children do not comply with parental rules. In this parental behavior, we detect the genesis of the typical forms of argument previously found in young children, which contradict other speakers by showing the negative or false consequences of what has been stated" (Pontecorvo, 2004).

The family dinner conversations seem to be an important part of the upbringing of children. It allows the discussion of participated daily events and allows the parents to discourse moral values and ethics that can be practiced in the life of the children. Not only does this conversation benefit the children, but it also has the parents thinking and learning. Pontecorvo states about learning, "If we consider learning as a process of becoming tuned to diverse communities of practice by children and students, the discursive practice of children and parents in the family arena is a relevant activity setting for developing reasoning skills that can then be used in diverse social endeavors and not just in school" (Pontecorvo, 2004). According to the previous quote, the interaction that takes place within the household seems to develop important reasoning skills which the child will indefinitely use throughout childhood and adulthood. These reasoning skills will also help youth with their journey throughout their academic career.

Thinking Spaces

Can the appropriate thinking spaces help the youth by offering the resources to overcome life's challenges? Thinking is to be considered, in a large sense, of a dynamic mental activity, this is both symbolic and cognitive, which can be an alternative to reacting or acting out. The transitional space, or what we like to refer as the thinking space, is an area where both the self and the nonself are allowed to embellish both images of reality and fantasy (Perret-Clermont, 2004). The author states, "The thinking space is the frontier of freedom in the psychic activity in which the individual elaborates the perceived reality in order to represent or symbolize it and to become able to reflect on it" (Perret-Clermont, 2004).

Sometimes we also consider the thinking space in its social dimension. People are always thinking, it has its roots in collective activities that favor or even irritate it. When in dialogues, the child is called out or challenged on issues on which they have to take a stance (Perret-Clermont, 2004). "This constant confrontation with joint activities, with words and other symbolic mediations, with role-taking, but also with socially built situations, with set problems and their accepted solutions, with memories and expressed feelings, contributes to equipping the individual with the means to think, which he or she in turn learns to use by reinvesting them in new contexts and also in facing new technologies" (Perret-Clermont, 2004). This uniting social shared thinking can be different amoung the youth, not all youth always find these spaces that allow for a personal, meaningful involvment and for social relationships that can provide resources for thinking, acting, and reflecting on experience (Perret-Clermont, 2004). "Thinking spaces are both inner zones of personal psychic activity and social oppurtunities to carry on this activity in sufficiently secure settings where the child or/and adolescent can risk confronting others with differing points of view and discovering new elements of reality" (Perret-Clermont, 2004).

We have to be conscious that there is an importance to social life with the development of higher psychological functions. "Adolescence has then been described as a period in which social moratoriums can offer most valuable opportunities to learn life skills and self-identity" (Perret-Clermont, 2004).

"Research has also shown the crucial role of more horizontal peer interactions in the development of competencies by the genuinely creative dynamics of a thinking mind constructing its own understandings via personal experience and confrontation with the "otherness" of his or her fellows and partners. The mind and the culture, the personal biography, and the social inheritance of knowledge and of collective emotional experience have all been shown to be closely interdigitated in the daily experiences of young people who strive to survive and discover themselves as agents in ever larger networks of action, discourse and legitimization" (Perret-Clermont, 2004). The youth almost have some kind of dependence on communication with peers to help give more understanding of ones opinions or experiences.

"Social life can encourage thinking, but it can also resemble an obstacle course that offers neither time nor partners to help young people become conscious of and reflect on their lives. We need to understand better what sustains the development of such basic life skills as the ability to express emotions and revisit experience, to give it meaning, to make choices, to construct time perspectives, and to develop an active sense of coresponsibility toward the future" (Perret-Clermont, 2004). I feel in the correct social setting there can be a positive encouragment of thinking and how to broaden one's terms of thinking. There can also be factors within this setting to help define and understand emotions and experiences in order to give meaning to these choices. But there are always those obstacles usually found within those settings that can create barriers which won't allow oneself to comfortably express or talk about certain experiences or emotions. The ones that put up the barriers may have a psychological issue within their present life or past, which is forcing the individual to act out in a certain form. These individuals may need this positive social setting more than others.

New Learning

We need to recognize that the language that we use has an affect on our experiences, which then reestablishes our social reality. When we address someone who is in trouble, we naturally direct our attention on the issue that something is wrong, but we forget to take the angle of revealing what is right. When we approach people and label them as one who has faced greater compromises, the least that we can do is give them hope. These interpretations arise from the poststructural theory, which embraces the power in language to construct social reality (Higgs, 1997).

"New learning is created in the alchemy of change. When a person's current knowledge is contradicted by new observations, a temporary state of cognitive dissonance often occurs. But when, out of the confusion, an integration of the contradictory information occurs and a synthesis emerges, the change can be said to have brought about new learning. Knowing this, it seems reasonable that we would want to embrace change. Resistance to change, however, is one of the most powerful barriers to new learning. We believe it is from within the paradox of change and resistance that the answers to issues in education for all students may be found" (Higgs, 1997). This is interesting because this quote doesn't have to only refer to the context of education. An adult can go most of their life thinking one thing but then one day they make an observation which can completely change or alter their view of their original knowledge. I believe the author is trying to establish that we as people don't like to change our present views or thoughts even if we do find a contradiction to our original thought. Is this due to a personal stubbornness or is this a factor of our sociological culture? Can a built environment change a person's susceptibility to change or will there still be a barrier of resistance against the new learning?

"We have said that new learning requires change and that resistance to change is the main barrier to learning. Biological research draws conclusions regarding the etiology of resistance that are somewhat different from those provided by our social theories. Sociobiological

theory suggests that not only do physical systems evolve, behavioral and social systems do as well. If social systems evolve and are influenced heavily by genetics, as the sociobiologists believe, then there may be other places to look for solutions to resistance in the schools in conjunction with changing students' social conditions" (Higgs, 1997). If sociobiological theory suggests that physical systems, behavioral and social systems evolve, then shouldn't the educational enviornment in which these theories generate themselves from evolve as well? The education system has been evolving since it has been created, some areas within the eduction system have eloved faster than others. Students' social change may need to happen outside of the eductional system's seven hour learning period. The change may need to be applied within the free time, outside of the educational system's realm, which can also be within the child's family enviornment. It is possible then, in which one may find the solution to this resistance.

"Theories that support self-efficacy promote new learning. Individual efforts of educators to build and facilitate the development of intrinsic motivation in their students may have greater long-term effectiveness and more power to help students overcome their compromising status than attempting to change their external conditions. While the move toward more socially responsive, full service schools is slowly gaining momentum, a better knowledge of the practices that support intrinsic motivation and ways to build them into school programs is needed in the interim. To the benefit of school systems, methods that use the intrinsic resources of students and parents in a collaborative and cooperative program will be more cost effective" (Higgs, 1997). This suggests that there is power in which the teacher can embrace and use to create a long term effectiveness of intrinsic motivation in their students. Can this social response only be held within the classrooms as a form of teaching, or can the built environment for the educational typology reveal social responses on which the inhabitors can embark on?

Theoretical Research Summary

Throughout my theoretical research I investigated different studies and stategies that will assist me in taking action on my theoretical premise, how architecture can contribute to a better understanding of the process of childhood maturation. The areas if which I researched were: interactions in education, family interaction, childhood as a social construct, thinking spaces, and new learning.

It is clear through my research that there are multiple areas within a child's foundation of maturation that can have an effect on how a child will learn and progess into adulthood. I feel that one of the more important areas that effects a child's progress through youth is the structure of the child's home. It is within the home where a child will learn a baseline of morals and ethics. These early teachings of morals is solely dependant on the parents or guardians that are raising the child within the home. Without this environment how will a child know what is right from wrong when entering a social setting.

Another important part of my research was in the area of the social and built environment of the education system. The education system is there to teach children the educational fundamentals which can help carry them through life, without requiring them to further their education at a college or tech school. The system doesn't only teach children their basics of education, but it also helps children develop social skills and how to work well with others. The classroom is the perfect place where children can experiment within their social setting and establish where they find themselves in relation to other children. The school system plays a large role in a child's life when it comes to communication and social interaction.

The remainder of my research concentrated on the idea of thinking spaces within the youth's life, and how can they help the youth by offering the resources to overcome life's challenges. The thinking space is referred to as a place where both the self and the nonself are allowed to embellish both images of fantasy and reality. It is a space where an idividual can elaborate on the perceived reality in order to represent or symbolize it, in order to become able to reflect upon it. The thinking space can also be referred to in a social dimension, in which one interacts with others through communication and experience in order to change or have a better understanding of a perceived idea.

Also important, is an idea that I researched known as new learning. New learning is created through change. Change is something that we are resistant to and is one of the most powerful barriers to new learning. But within this paradox of change and resistance maybe found the answers to the issues which lay within education. But over time as these physical systems evolve, behavioral and social systems do as well. So keeping that in mind, there may be other places to look for solutions to resistance in the schools in conjunction with the changing students' social conditions.

Overall, I hope to use all of this information to its fullest potential in trying to understand my thesis. I will be using it as a resource for writing, discussion, and design of my thesis. I will be continuing my research as my project progesses with studies to help me understand the maturation process of childhood.

Case Study 1

Evelyn Grace Academy

Typology: Intermediate School
Location: Brixton, London, England
Architect: Zaha Hadid Architects
Date: 2010
Size: 115,000 ft^2
Client: School trust ARK Education, Government DCSF
Elements: Schools within Schools, Communal Spaces, Four Smaller Schools, Educational Complex, External Shared Spaces


Figure 31-1

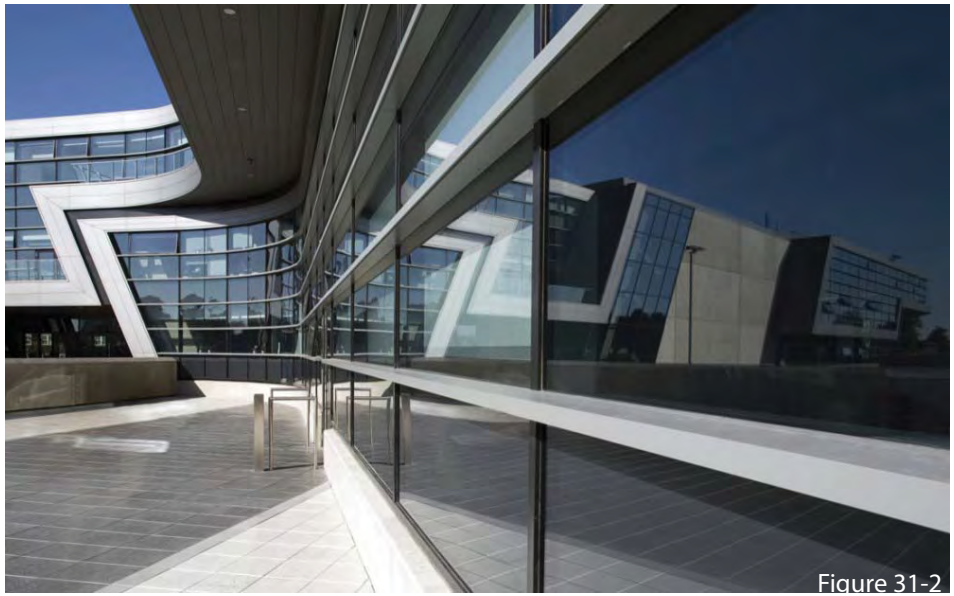


Figure 31-2


Figure 31-3

Evelyn Grace Academy is a middle school that was built in a primarily residential area of Brixton London and was constructed between two of the main residential roadways of the Borough, which lent itself to the coherent form of the design. The intention of the design was to create a healthy atmosphere for advancing teaching routines, internally as well as externally.

The academy was designed for four different middle schools all learning in one location. There are multiple spaces throughout the building that encourage for social interaction between the students of the different schools, but there is still a natural segregation pattern that is ingrained within the highly functional spaces which helps give each of the four schools their own sense of identity. The external shared spaces are also designed to help generate communication and interaction by layering informal social settings and teaching spaces based on the assembly of multiple functions.

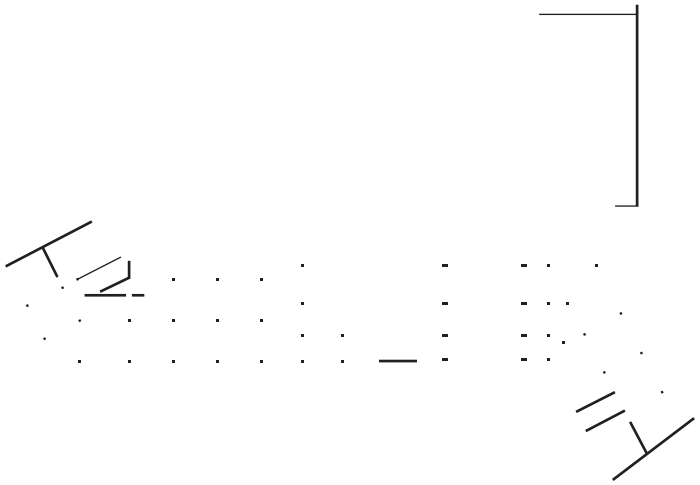
Figure 32-1


Figure 32-2

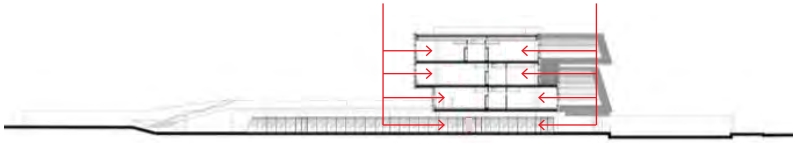
The Academy has highly functional spaces that maximizes levels of ventilation, natural light, and durable textures. Main stairwells were given maximum glazing to help surveillance of the spaces.

The design is flexible for the four schools that are located within the building, but as well as for visitors. Visitors can enter at the main reception and can then access any of the four schools from the central core. There are multiple entrances throughout the building, some are main entrances to the central core and some are more private for each school, which helps create a beautiful and more natural flow of the flexibility of the spaces. The landscape design around the building also helps give a sense of direction which helps pull the students and visitors into the building. There is also an interesting five lane running track that runs from east to west across the site and moves through a corridor that cuts through the academy. The track is an interesting way to incorporate the extra curricular activities into the landscape design that surrounds the building.

The schools are organized horizontally over three floors to help minimize the vertical circulation of the schools. Minimizing the vertical circulation and overall height of the building helps the design of the building fit in with the residential surroundings. The design splits the students that occupy the floors by having the younger students on the first and second floor, putting the older students on the third floor. By splitting these students by grade, it allows the students of the same grade of the different schools to still have the opportunity to have interaction with those of the other schools. There are shared facilities on the main floor that can accommodate community out of hours use. The science labs are located between the schools and are flexible where more than one school can use the labs at a time, as well as by after hour community functions. The overall flexibility of this building is truely amazing. Having an academy for four middle schools is brilliant. By maximizing social interaction and communication between the students they are getting more than an education with access to a large physical social network in their same age range. Yet the building is still flexible in a sense for the surrounding community.

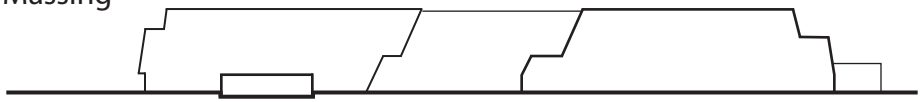


Structure



Natural Light

Massing



Plan to Elevation

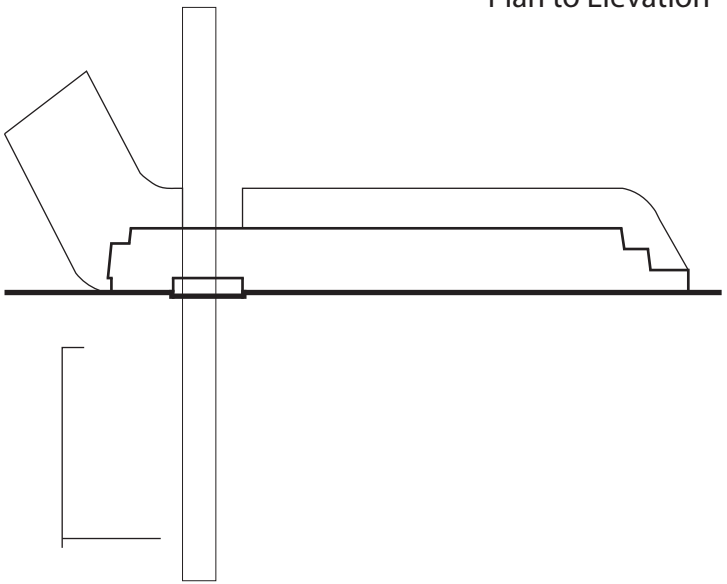
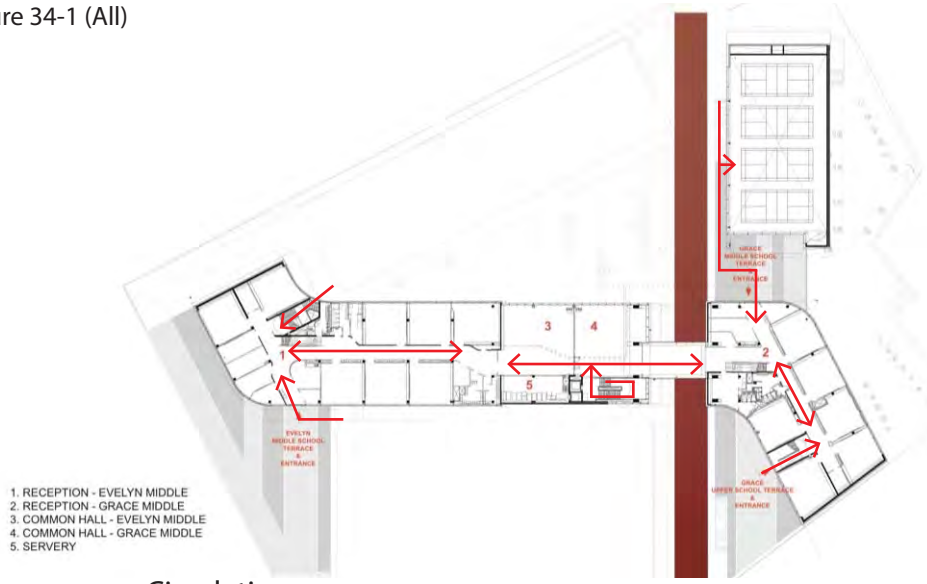
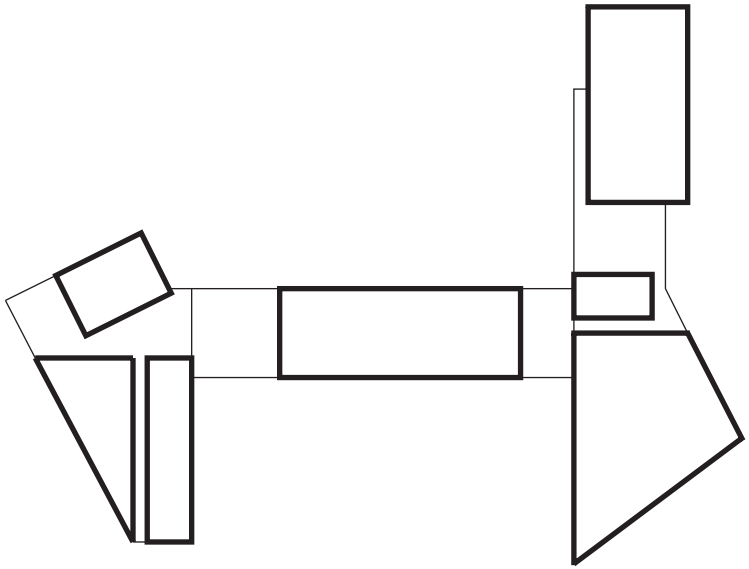


Figure 34-1 (All)

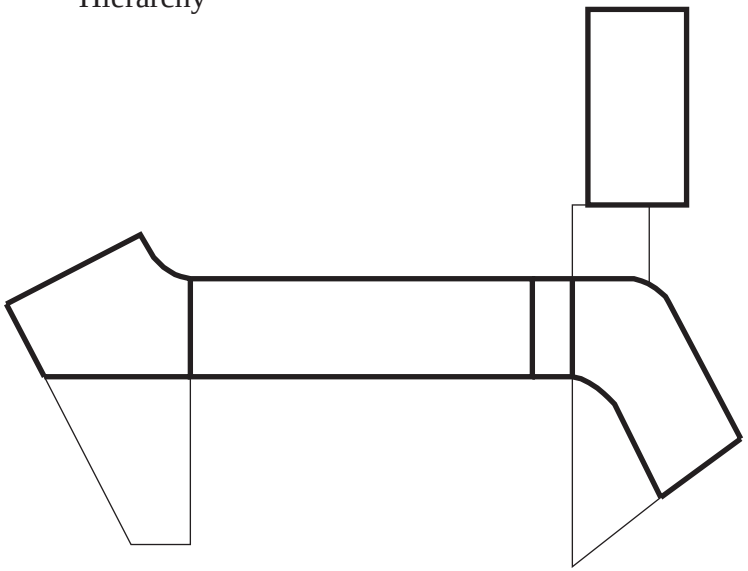


Circulation



Geometry

Hierarchy



Case Study 2

Kindergarten Terenten

Typology: Child Daycare Centre
Location: Terenten, Southtyrol, Italy
Architect: Feld72
Date: 2010
Size: 11,250 ft^2
Elements: Contemporary Form, Classrooms, Parents' Corner, Connecting Bridges, Flexible Rooms


Figure 35-1


Figure 35-2


Figure 35-3

Kindergarten Terenten is an interesting project mainly because of how the surrounding topography of the site and region are so dominate that it had to play a big influence on the design. The building is integrated with the surrounding landscape by having one side of the building built into the Earth and the opposite side of the building making more open, yet private exterior spaces and gardens.

The scale of this project was done so it related well with the surrounding buildings and the designers also kept the sense of scale with relation to the children and how they perceive the size of spaces. The designers also used traditional architectural elements of the surrounding context to help tie the design into its existing built environment. The different roof planes have varying angles, which relates well with the surrounding topography of the distant hills that surround the city.

Figure 36-1

Figure 36-2

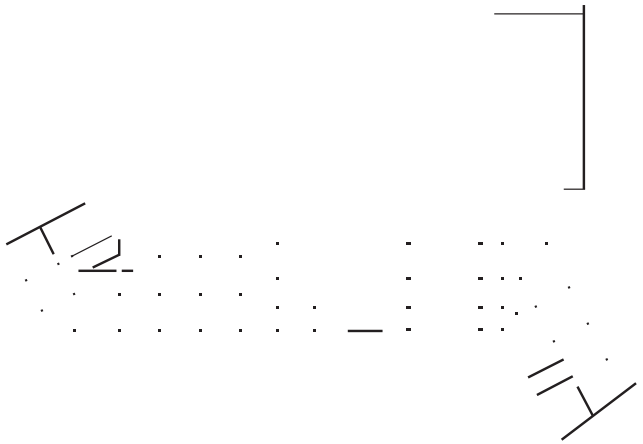
From the ground level, it appears that the center is divided into three different houses that are connected by glazing, which floods the spaces with natural light. These different building units have been designed in relation to the nearby primary school, while taking into account the perception of the children. "The differently shaped “houses” help children get their bearings and understand the spatial and social organization of the centre. The children feel at home in “their” respective houses." (Kindergarten, 2010).

"We have aimed at creating differentiated spatial structures, rooms that provide as much potential as possible to stimulate children’s independent activities, orientation, communication, social interaction and aesthetic receptiveness." (Kindergarten, 2010). Most of the rooms are flexible, they can be used for stages of different events for the children, as well as used for quiet time or as a resting area.

There are two levels that are incorporated in the classrooms that are located on the ground floor. Within this space there are connecting bridges, galleries and air space, which offer an array of spatial experiences and lines of sight. There are multiple views from the windows around the building that help pull the surrounding mountainous scenery deep into the centre's spaces.

The designers based their material choice on a guiding principle of building something special among an everyday environment. They reinterpreted traditional elements from a contemporary perspective in order to create new aspects. " The building takes up time-honoured patterns and combines them with new phenomena of global modernity." (Kindergarten, 2010).

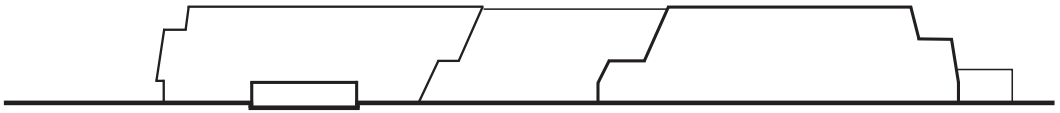
The way the design responds to the sloping terrain has made this daycare center a brilliant hybrid creation. I enjoy how there is this cross between the landscape and the built structure, by having the interior and exterior spaces flow into each other made an interesting design.



Structure

Natural Light

Massing



Plan to Elevation

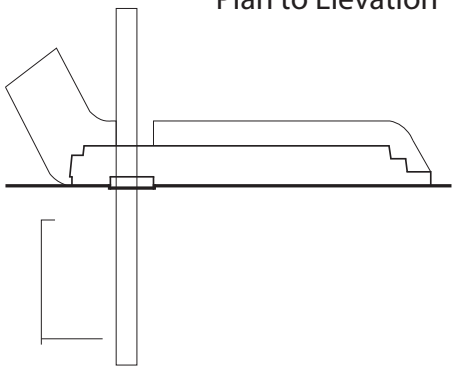
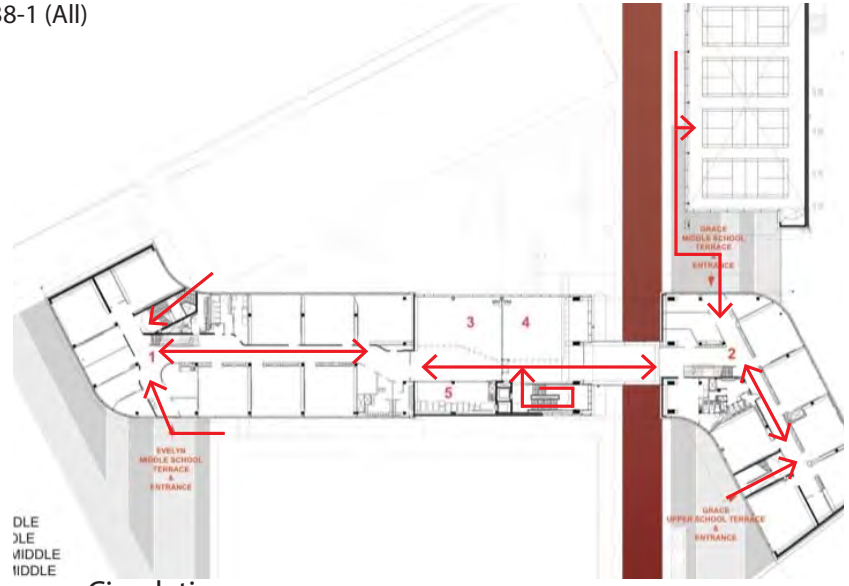
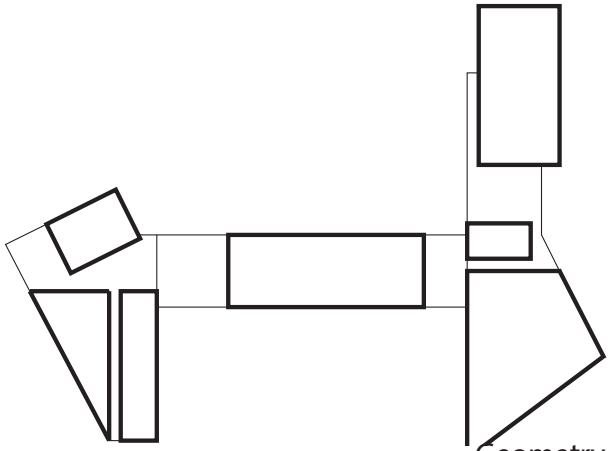


Figure 38-1 (All)

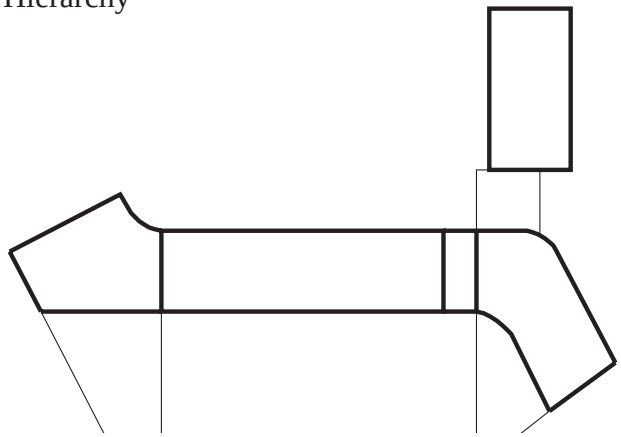


Circulation



Geometry

Hierarchy



Case Study 3

Leutschenbach School

Typology:	Elementary School
Location:	Zurich, Switzerland
Architect:	Christian Kerez
Date:	2009
Size:	106,000 ft^2
Client:	Municipality of Zurich
Elements:	Gymnastic, Multipurpose Hall, Library, School Cafeteria

Leutschenbach School is an interesting design when it comes to elementary education. Rather than building out over a vast area with two or three floors, the architect decided to build vertically in order to reduce the building's footprint as much as possible. When the client called for bids on the project he didn't just give square footages and functional definitions but he also asked the designers to envision how a child would experience the school in the future.

The architect looked back at his own childhood to recall what he enjoyed most about his primary educational years, which were the large public spaces of his own school and how he enjoyed running around the school's grounds. These thoughts led him to this statement, "make this a very public building with large halls and staircases." (Lentz, 2012).


Figure 39-1


Figure 39-2


Figure 39-3

Figure 40-1

Figure 40-2

Figure 40-3

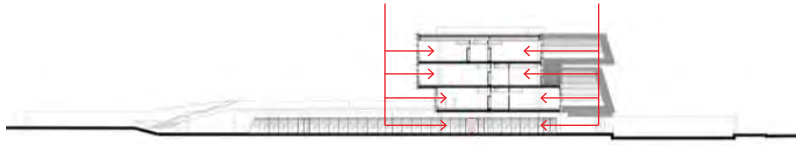
The site of this project has some outside elements that my other case studies didn't have or need to consider. This specific site is directly beside the nearby international airport, it is adjacent to a high speed rail line as well as a factory incinerator. These factors brought the architect to this conclusion, " Maintaining an open field with a compact, stacked structure at its center—instead of with a typical two-level building spread over it—would enable the architect to create a park around the school, insulating its occupants from grit and noise while enhancing the developing community." (Lentz, 2012).

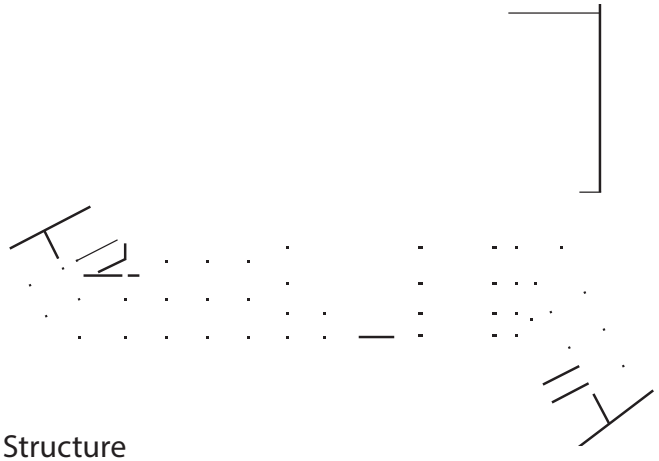
Since the construction is column free, the floor plates are open to a more flexible program. The students enter at the ground floor from either side of the building. The ground floor has a central core with a wide open area around it and is completely surrounded by transparent glazing, as if outdoors. This floor is also where the children eat and hang out after class. Floors two through four are all designated for the classrooms, which line the sides of the building. The fifth floor is designated for the administration offices, library, and auditorium which are all around a courtyard like commons area. Then the building is capped off with the two story tall gymnasium, which spans across the entire floor plate. The gymnasium floor is acoustically isolated from the floor below so the floor below isn't disturbed by the activities that take place on the top floor.

Since the design's intention was to make as small a building footprint as possible, it allowed a large and open area at ground level for children to run and play. The designers didn't show or talk about any landscape elements that were incorporated into the project's site that helped make a connection between the built structure and the surrounding environment, which is something I would like to have known more about.

This project is an interesting design and take on a facility that holds the spaces of education. I really enjoyed the emphasis on the massive structure which is allowing this design to stand. Another aspect that I enjoyed was the amount of glazing throughout the project and the different amount of views it created for the children.

Figure 41-1 (All)

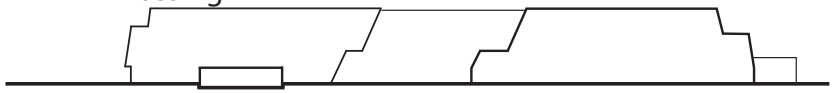




Structure

Natural Light

Massing



Plan to Section

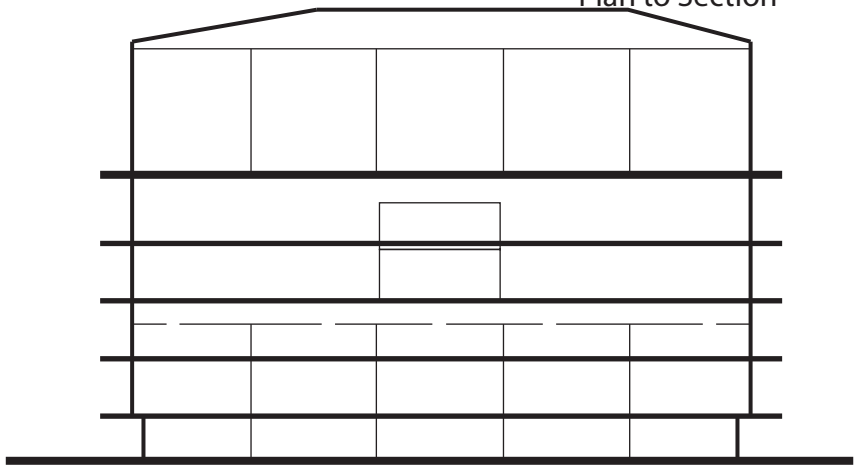
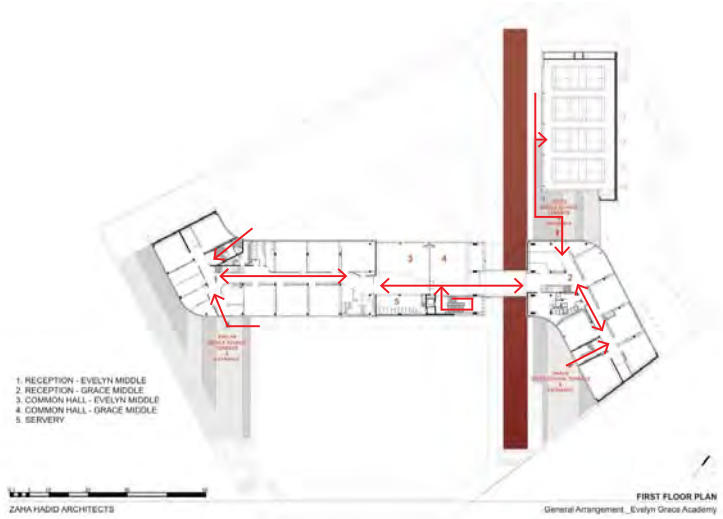
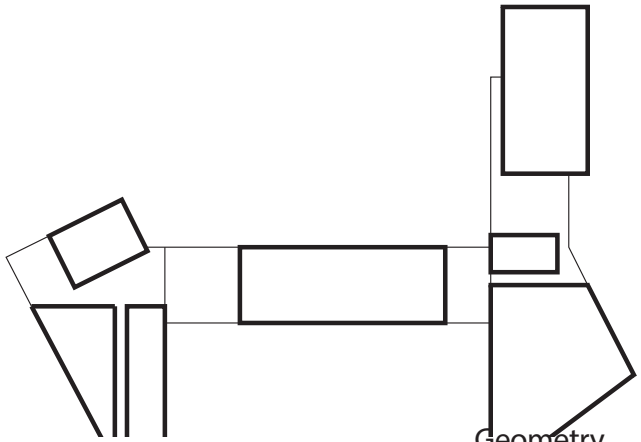


Figure 42-1 (All)

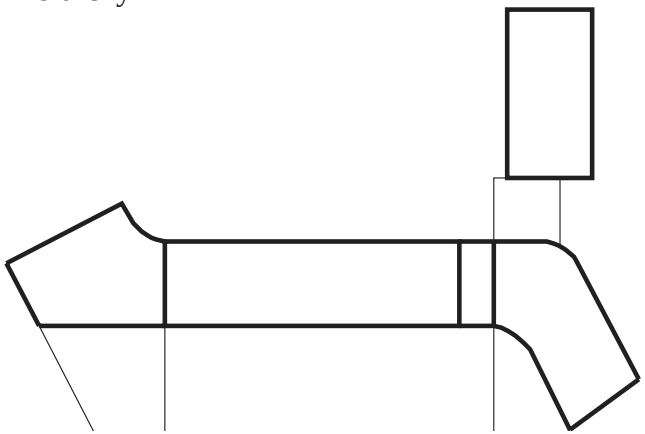


Circulation



Geometry

Hierarchy



Case Study Summary

This series of case studies represents a great variety of young childrens educational facilities. The buildings that were analyzed are the Evelyn Grace Academy, Kindergarten Terenten, and the Leutschenbach School. Each of these buildings responds in a unique way to the historical and cultural context in which it was built. These case studies help analyze the sense of scale and scope of the typology's design work. Each of the buildings were specifically analyzed through the following diagrams: structure, natural light, massing, plan to section/elevation, circulation of space, geometry, and hierarchy.

When I relate these case studies to my theoretical premise, "Architecture can contribute to a better understanding of the process of childhood maturation", I find that every case study explores and demonstrates how to accomplish this statement. Every building relates to this matter in a different way, but ultimately each of these projects are attempting to provide the best environment for children's education and creating as much oppurtunity for social communication and interaction between the students. These explorations of different space sizes and arrangements helps to analyze how child maturation is influenced by the built environment in which children learn. The Evelyn Grace Academy is located between two main residential roadways and has surrounding residential districts. The academy has a great approach to combining four different middle schools into one building, yet giving each school a sense of identity and still having social interaction nodes throughout the building to encourage communication between the students of the different schools. The Kindergarten Terenten is located in a mountainous area of Southtyrol, Italy, which had an interesting correlation between the built structure and the surrounding environment's topography and context. The daycare centre has a nice home feeling which was intended

to help give the children a sense of place and security. The child's perception of scale and space was kept in mind through the design process which was executed well. They created different spatial structures in order to provide as much potential as possible to stimulate children's idependent activities. The Leutschenbach School is in a suburban corner of Zurich, Switzerland and had the smallest footprint of all the case studies. The design was to stack the needed spaces for an elementary school rather than spreading them out over a vast amount of land, which limits the amount of area for the children to play in the schoolyard. The design showed how you can incorporate the interaction nodes for the children throughout the series of floors and the correlation of the placement with different spaces in a vertical sense.

All of these projects had flexible spaces throughout their floorplans with relationship to their functions. I think that these case studies were a good response to the typology of children's eduction and centers for youth. The studies gave a good sense of the different orrientations with the interaction nodes throughout their designs. They also gave a good indication of how to design with a child's perception of scale and space. I feel that some of the more successful or helpful studies were the projects that incorporated the site design into the architectural built environment, by creating spaces that flow into each other. The circulation of the buildings was another interesting element and how they were able to establish different interaction points for the children that are moving about the spaces.

These case studies were successful in addressing how to get children to have social interaction and connections in their built environment, as well as with their peers that inhabit the spaces with them. I will be continuing to broaden my ideas and perception of how to establish them by continuing to analyze more projects that fall within my chosen typology.

Historical Context

I feel that it is crucial for a designer to become familiar with a site and understand what happens at that specific site as well as it's history. Not only should a designer have collective knowledge and experience of a site but they should also know some of the history, as well as present culture, of the context or city in which the site exists. This knowledge and experience will help benefit the overall design process and help with inspiration for the intent of the design.

With that being stated, I feel that it is critical to learn about and understand the history of Minot, ND, and my specific project site. Minot, ND was established in 1886 when James J. Hill stopped the production of his rail line, the St. Paul, Minneapolis, and Manitoba (SPM&M), for the winter. The existance and the future of Minot was completely dependent on the SPM&M railway. The rail line is what gave Minot its start and is what provided the town with a momentum, which other newly platted towns lacked. As the winter passed and production began on the railway again in the spring, Minot started to become important to the rail line, by having an established place for the rail to stockpile materials and to act as a sort of base camp for the workers of the rail line.

As the years went by, farmers started to take to the land of the surrounding area and helped Minot to increase its population. Farming wasn't the only thing starting to take off at this time, but Minot started

to have a bomming economy and was home to the regional headquarters of a large employer, the Great Northern, made Minot into a businessman's town.

Minot was notorious for its citywide issues on gambling, illegal liquor sales, and prostitution. But in 1909, the city and its officals started to crackdown on these illegal actions. This act by the city's officials got some of the riff-raff to flee town, which was the goal of the action to clean up the city.

The Mouse River

The city of Minot attained its location not only because of the railway lines that were predicted to go through the area, but because of the resources of the Mouse River. The river starts in Canada and flows south into North Dakota and makes a loop back up into Canada. On the rivers loop back into Canada, the Mouse passes through Minot and continues northward. The riverbed that runs through Minot provided the settlers with the needed supplies and materials in order to survive on the land until the railroad made its established path through the town.

Even though Minot was first founded on the Mouse River and the inhabitants relied on its provided resources, it has caused a few different waves of destruction due to extensive flooding.

The first recorded flood of the Mouse was before Minot existed, and was dated by the pioneers as 1881, when by evidence to which first settlers attested, the river may have been three feet higher than the flood of 1904.

The next major flood after the flood of 1881 was the flooding in 1904. At the time of this flood, the population of Minot was 1,200 and the Minot Daily Optic reported that several hundred had to leave their homes, due to the flooding. Engineers have estimated that the peak flow of the river for this flood was at 12,000 cubic feet per second.

Following the flood of 1904 was the major flooding of 1969. At the time of this flood, Minot's population was around 30,000 and most residents living within the Mouse River valley had to evacuate their homes and businesses. The estimated peak flow of the '69 flood was only around 6,300 cubic feet per second. But because the low lands were almost completely occupied and built up, the water had less valley space to pass through. During this flood, the city had some time, yet very little, to build up many emergency dikes, in order to save some inhabited parts of the valley.

Then there was the most recent flooding of Minot in the spring of 2011. At the time of this flood, Minot's population was around 40,000. The high flood waters swamped more than 4,000 homes and businesses, destroyed two schools and forced nearly 12,000 people from their homes. The estimated peak flow for the flood waters was 26,000 cubic feet per second. The city was able to save some parts of the Mouse River valley by building up clay to provide a temporary dike system. The flood split the city into a north side and a south side, with only one means of travel from one side of the city to the other. This was a difficult commute for people to take due to slow traffic movement. But the route had to be traveled, there weren't any grocery stores on the north end of the town as well as being very few restaurants on the north side. The restaurants that were open were only open for select hours of the day due to a citywide boil order that went into effect during the flood and stayed in effect for several weeks.

Throughout the history of Minot there have been a few larger more disastrous floods that have taken place, but in between these larger events were some smaller floods that were still an issue, damaging property of people living in the Mouse River valley. But after period of dealing with these floods, city officials started to do some studies to prevent this reoccuring disaster. " Most notable of the studies of this period was a report made in 1927 by R. E. Kennedy, then North Dakota state engineer. It proposed construction of an artificial flood channel through Minot 200 feet wide at the bottom and 12 feet deep, running the length of eight miles (half of the mileage in the city).

It was estimated by Kennedy that such a channel would carry the flow of all but the monster floods. Price tag of the project was estimated at $1,200,000. Most of the cost would have been borne by assessments against property subject to damage by the city as a whole" (Minot Daily News, 2011).

"Following the Kennedy report, a St. Paul consulting engineer, L. P. Wolff, presented in 1928 a modification of Kennedy's plan. Where Kennedy had recommended the "chain-of-lakes" route through north Minot for flood channel, Wolff proposed a route closer to that of the existing river channel. He suggested that the flood channel be designed to carry a flood the size of the 1904 flood with quite a margin of safety. His design would have carried a flow of 18,000 cubic feet per second or more. The estimated cost was a little less than Kennedy's $1,200,000 figure" (Minot Daily News, 2011).

" Meanwhile a Ward County flood control board had been organized, with a view toward putting one of the artificial channel projects fell into effect. The proposal of the commission met defeat. It developed opposition on account of high costs as a viewed by residents of a city then struggling to provide itself with the public services normally regarded as essential" (Minot Daily News, 2011).

" Money, or the lack of it, was the big obstacle. The project produced disagreement and consequently no action on any plan for major surgery to prevent floods in Minot. The report which the Army Engineers presented to Congress in 1930 was a fact-finding report. It took cognizance of the money problem. It noted conflicting views in Minot, and said, "Even if an agreement could be reached, it is doubtful that the City of Minot would be financially able to carry out an adequate plan."" (Minot Daily News, 2011).

" The 1930s, however, brought an unexpected development. The U.S. Bureau of Biological Survey (which became the U.S. Fish and Wildlife Service) established two large waterfowl refuges on the Mouse, one above and one below Minot. Land for the project was acquired in the

region's worst drouth years on the premise it was sub marginal. A feature of this development was the construction 52 river miles above Minot of Lake Darling Dam capable of impounding 112,000 acre feet of water. Lake Darling reservoir was created in 1935 primarily to supply waterfowl marshes of two national refuges. The project gained support in Minot on the basis of its prime objective, but also because of a showing that the dam would reduce water damage in Minot in most flood years" (Minot Daily News, 2011).

Train Derailment

In January of 2002, a Canadian Pacific Railway freight train traveling east at 41 mph on the Portal Subdivision derailed 31 of its 112 cars about one half a mile west of Minot. Out of the 31 cars that derailed, fifteen of the tank cars were carrying anhydrous ammonia, which is a pungent gas used as fertilizer for crops. Of these fifteen tank cars, five of the cars ruptured, releasing 146,700 gallons of anhydrous instantaneously. There were also six additional cars that had leaked about 74,000 gallons of anhydrous over the next couple of days.

" The accident occurred at 1:37 a.m. The temperature at that time was around minus 5 degrees, and a temperature inversion was occurring, which acted to keep the cooler air closer to the ground and keeping the anhydrous from dissipating quickly. There was also only slight wind that night, coming from the southwest, which allowed the plume of poisonous gas, which rose to an estimated height of 300 feet, to blow straight toward downtown Minot and work its way slowly through the area" (Caldwell, 2009).

" The cause of the derailment was determined to be a broken rail joint. The accident occurred at or near a 36-foot "plug" that had been inserted between the continuous welded rail. The plug was held in place by 36-inch joint bars, which were secured with bolts to the rails on the inside and outside on either end of the plug" (Caldwell, 2009).

Oil

Over the past five years, Minot has faced an increase in population due to the oil boom that has taken place in the western part of state. With this boom, there has been an increase in traffic, as well as an increased demands on the infrustructure of the city. The city of Minot has had a had a hard time keeping up with the needed expansion and development of the city in order to comply with this steady increase. The housing market has also been difficult as there aren't enough houses to hold this increasing population. Most rental housing units within Minot have responded to this boom of people and have taken advantage of it. Some landlords of these rental units have increased their monthly rental prices to where the existing renter can't afford to pay and is forced to find another place to live.

"Children play in neighborhoods where there are too many cars whizzing up and down the street or in and out of parking lots. All too often those children are probably going without something they need – food, winter clothing, adequate supervision – because their single mother or father or grandparent, who works two or three part-time jobs, must direct every penny to the rent. Three salaries from three part-time jobs is probably barely enough to pay that outrageous rent" (Johnson, 2011).

This is where my thesis will have an effect on Minot. My thesis will provide these children with a facility to be safe, learn, communicate, and socially interact with the other youth of the city. As the city continues to grow and take on new inhabitants, there will be an even stronger need for a place to provide the youth with this kind of program.

Project Goals

Academic

This thesis will allow me to explore an interest in ideas that I have gathered over the years of my college experience. As I did research for my theoretical premise , I found that architecture can contribute to a better understanding of the process of childhood maturation. I have been analyzing and questioning my past education, and how it relates to society and its changing variables. These thoughts and questions have made me come to the realization that every course and every detail I have ever been taught has to now all come together and be poured into my one and final project of my college career.

Over the years of my educational architecture career I have done many design projects, but I have never done a project with such depth and research on psychological, social, and contextual information relating the maturation process of the youth. This research has given me a lot of insight on the social communications of children, as well as made me think about the relation of the educational system in correlation with the childhood maturation process and how they relate to each other.

Eventually my project will be uploaded to the digital repository for future scholers, faculty, and all others interested, to view and study. This project will academically serve as a comprehensive demonstration, showcasing a culmination of everything I have learned in my academics at North Dakota State University.

Professional

My thesis will be a final project of the Master's of Architecture education and will serve as a transition from the educational realm into the

professional realm. I hope to exhibit and demonstrate my attained skills of successful, detailed, complete, and convincing architectural design thesis. The final result should establish and answer my thesis problem statement, "Architecture can contribute to a better understanding of the process of childhood maturation."

As an emerging professional in the architectural field, I need to be able to present my ideas through my work in a convincing and readable way for viewers to understand my responsibility in the design solution. I hope to influence a sense of change in the professional level for the city of Minot. When my thesis is complete, I plan to present my initial ideas and research to the proper Minot officials to help initiate change and generate ideas to help the maturation process of Minot's children.

Personal

I grew up in the city of Minot, ND and lived within close relation to the facilities that housed my education. I lived in an area that had been an established development of the city for over forty years. As I moved away to college for the past six years, living in Minot for the summers, I observed the change and expansion of housing developments, as well as seeing new housing developments. With the city's development and expansion comes new families, and with families come children. But there hasn't really been any provision for the youth providing spaces for the children of the city to be themselves. This is where my thesis project becomes important to the city of Minot. I want to provide the city's youth with design strategies that allows the children to be themselves, and to be able to gather and communicate with others their age.

My final goal is to present a project that successfully demonstrates my level and skills of design. This is my final project as a student of architecture at North Dakota State University, and will be used as my gateway into the professional design realm.

Site Analysis Narrative

When designing a youth filled environment, choosing the proper site can help strengthen the effectiveness of the design. When I think of a youth maturation environment I must take a few things into consideration. A site that houses the youth needs to distance itself from outside endangerment, such as heavy traffic flow, heavy machinery or equipment, elements of the weather, etc. The site and the typology need to relate and fit well into its context. The design of this thesis is meant to provide a safe area for the youth to interact and congregate, placing the site distant away from dense movement. In order for all these criteria to be met, I needed to find a site that was secluded, yet close to support and opportunity.

My site is directly one block south of Minot State University. The site was once home to one of the two middle schools of the Minot Public School System, named Erik Ramstad Middle School. The middle school was engulfed by the treacherous flood of the spring of 2011 and in turn had to be demolished. Erik Ramstad has a temporary facility housing their education in a back parking lot of the city's Auditorium, which will only be in place until the new location of the school's building is complete. The demolition of the school's original building has now made the site a big open vacent lot, which is waiting for a buyer and their next project.

The surrounding environment of the site is all existing housing that has been there since the school was built. Even though the surrounding houses have been flooded, many of the owners have returned and rebuilt their homes. Since the site is surrounded by housing, I feel that my project can respond by giving the youth a homey feeling and a sense of belonging to a large family. Residential streets also have a positive effect on the surrounding traffic that may take its route by the center, and that is that residential streets have lower speed limits and since it was once a school the speed limits can be set even lower than 25 mph at certain times of the day.

The once existing middle school, Erik Ramstad, had its own exterior track and football field, two baseball fields, two basketball courts, sand volleyball court, and a playground with an open field next to it. This site once housed very much of the same activities that I feel necessary to provide in this design.

When I made my first site visit, the school had already been demolished and all of it's remains had been taken off the site, except for a large mound of crushed concrete and gravel that laid in the middle of the site. All that was left of the site were the track and the football goalposts, the baseball field cages, a basketball hoop and its concrete court, the volleyball sandpit, and a few chainlink fences.

As I walked around the site and took pictures, I felt this sense of what once had been. I hadn't been in the Erik Ramstad School very much or knew much of what it looked like inside before it had been demolished, but just being on the site I could feel the presence it once had. I could feel the children and the playfulness that had once danced throughout the site, the different activities and involvment of the children had left a presence.

When I had completed my documentation of the site for the evening I felt this cold and erry sense come over me. I immediately knew what it was, I knew that this beautiful site was no longer going to be a place that was nestled within the community so well, with such great relation to the surrounding context. I knew that someone from outside the community was going to buy this property and change it into another bland mixed-use building, which will have its occupants use the building for ten years, move out, and then the next company will move in and create a business. There will be this disconnect of the site and the context in which the site lays, the beauty will be lost.

This is when I knew I had the perfect site for my thesis. My project will have the opportunity to put the children back into the area and bring the site back to life.

Light Quality

The light quality of the site depends on the time of day and the weather. The site has the opportunity for a lot of good natural light because there aren't any tall structures surrounding the site, there are only houses and trees around on the edges of the site.

Wind

The site is protected quiet well from the winds because it is located in the Mouse River Valley. Since there are houses and trees surrounding the edges of my site, most of the direct wind will be blocked. The prevailing summer winds come mostly from the west and the prevailing winter winds come mostly from the northwest.

Water

The Mouse River is located one block to the south of the site. The site is also located within the flood plain of the Mouse River. The flooding in the spring of 2011 put the entire site about ten feet under water.

Surrounding Built Environment

The surrounding built environment is all residential buildings. The closest structure that is other than residential, Minot State University which is directly one block to the north of the site.

City Grid

Minot is built on a grid system, the streets run north and south the avenues run east and west.

Property Lines & Boundaries

Figure 56-1

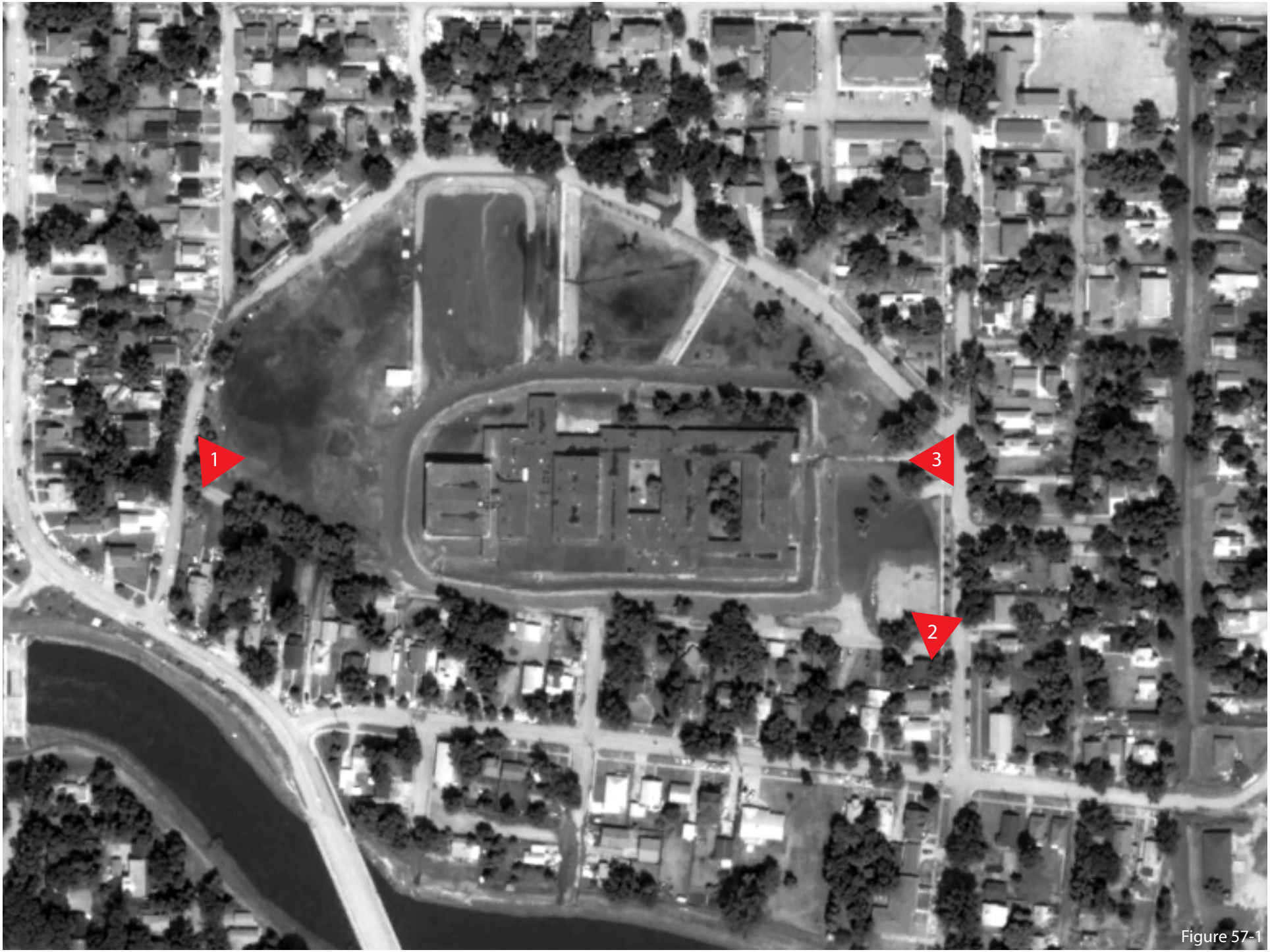


Figure 57-1

Figure 58-1

View 1

Figure 58-2

View 2

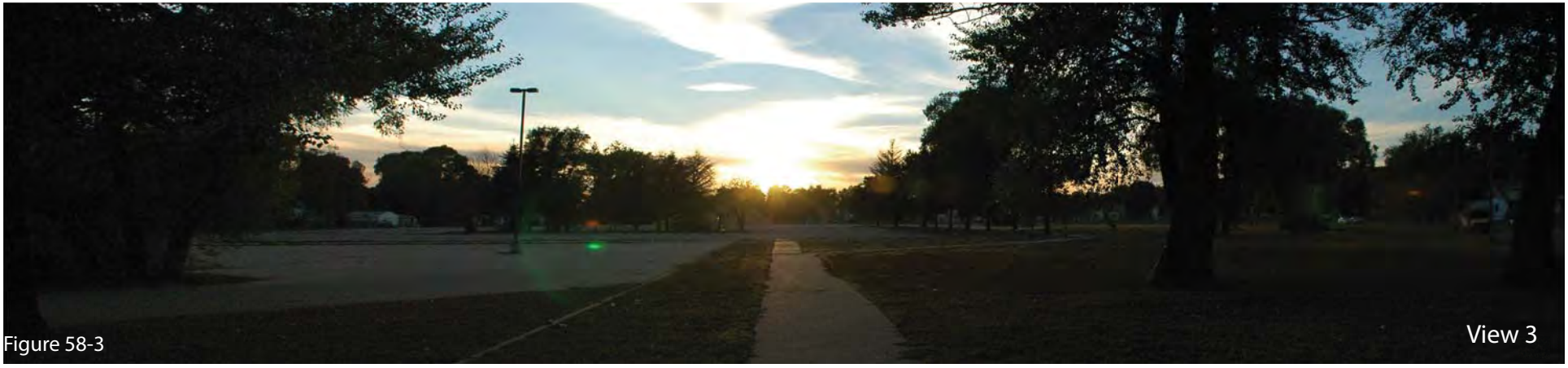


Figure 58-3

View 3

Figure 59-1 (All)

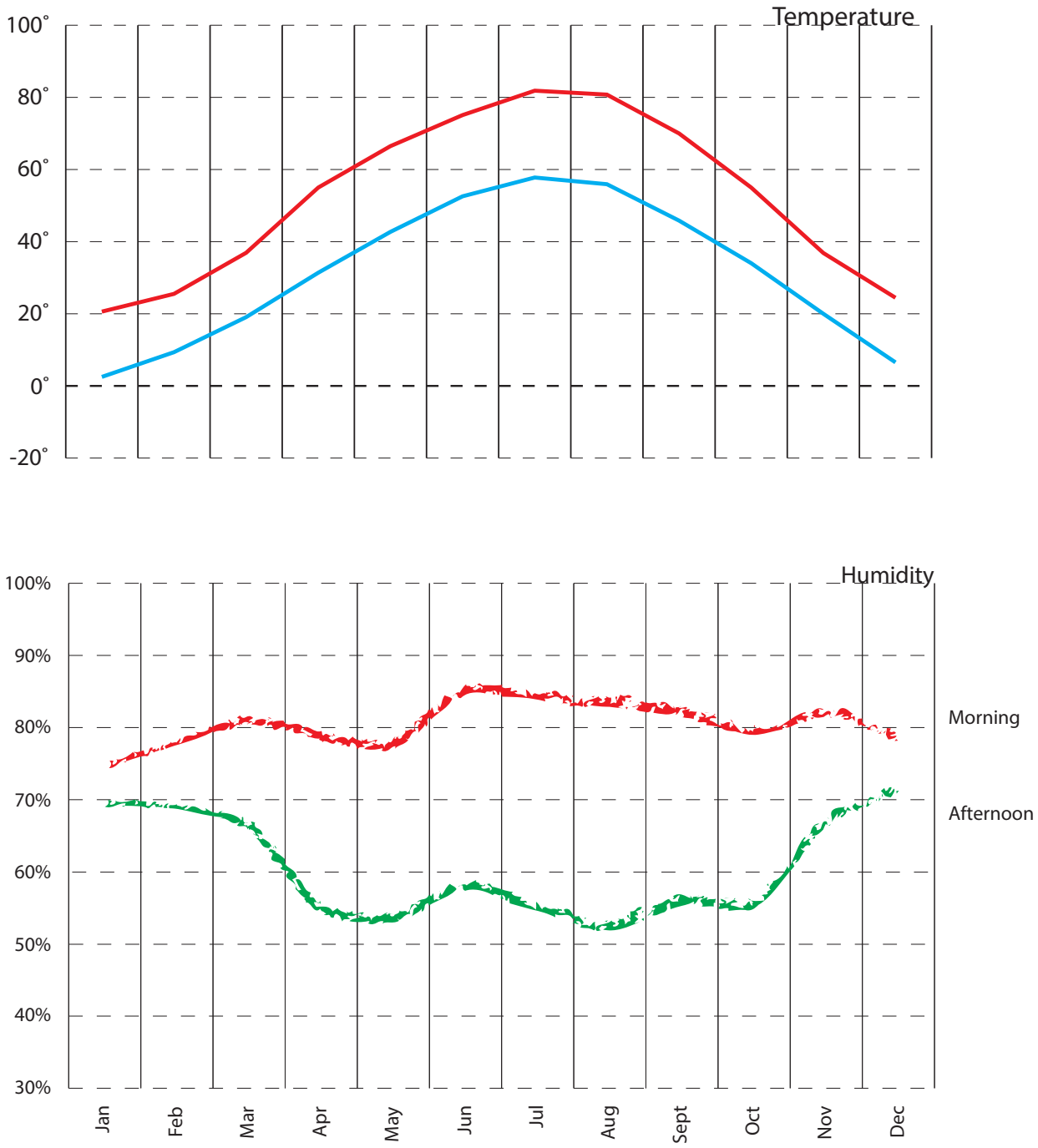
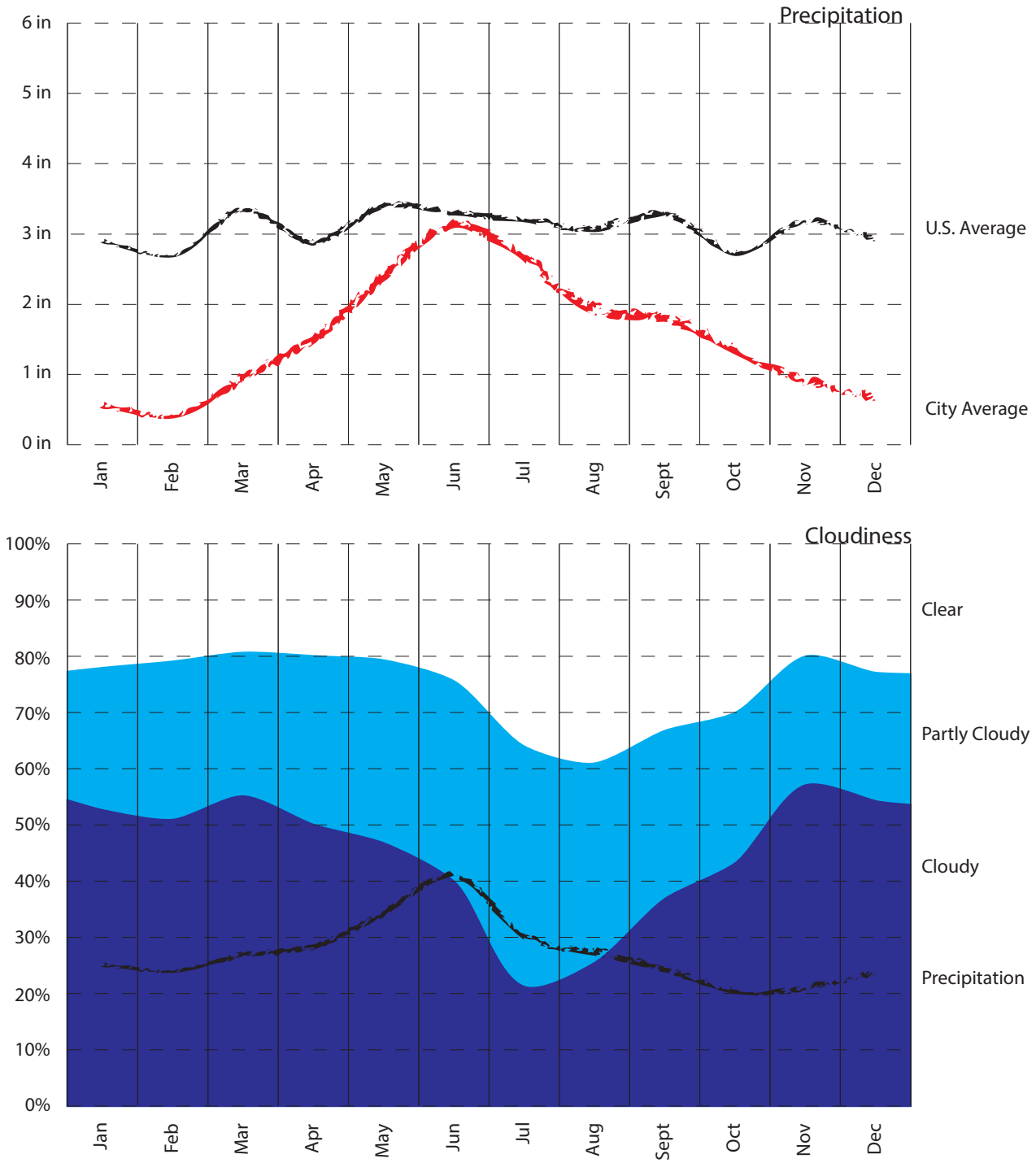
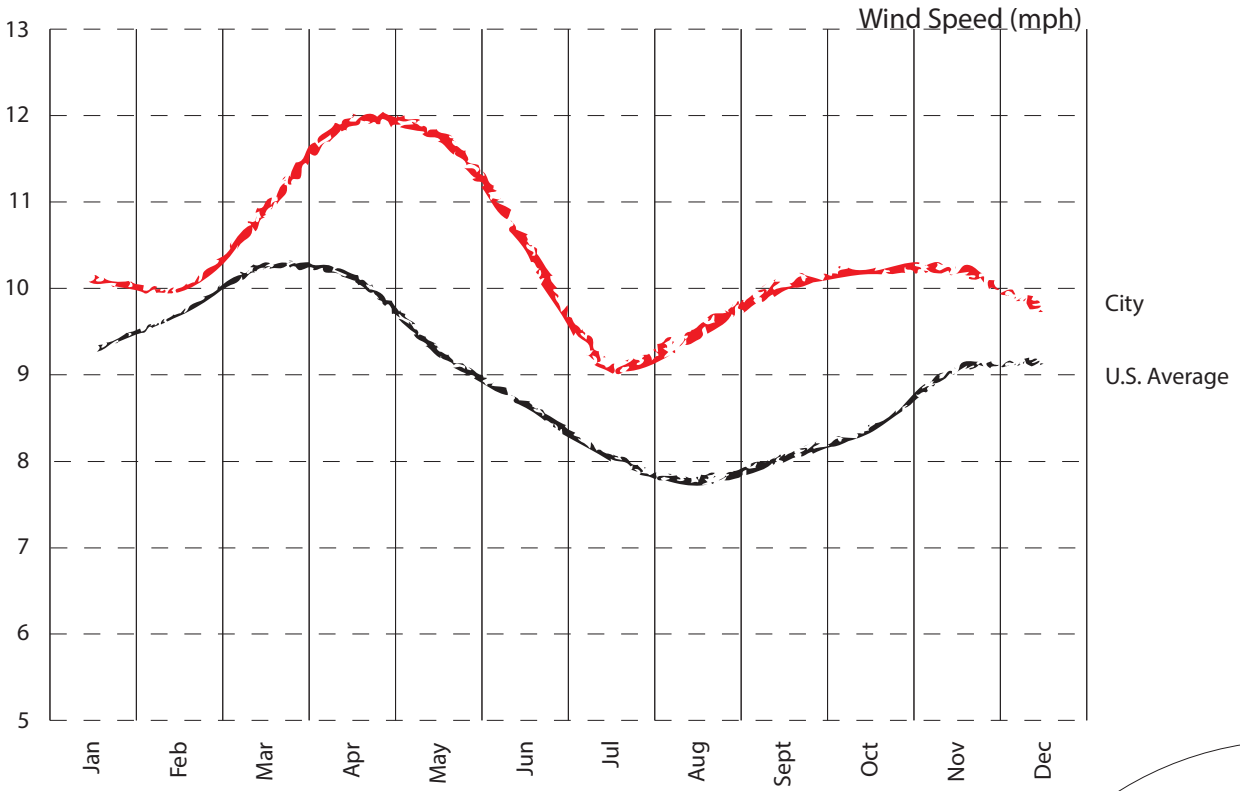


Figure 60-1 (All)




Wind Speed (mph)
13
12
11
10
9
8
7
6
5
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
City
U.S. Average

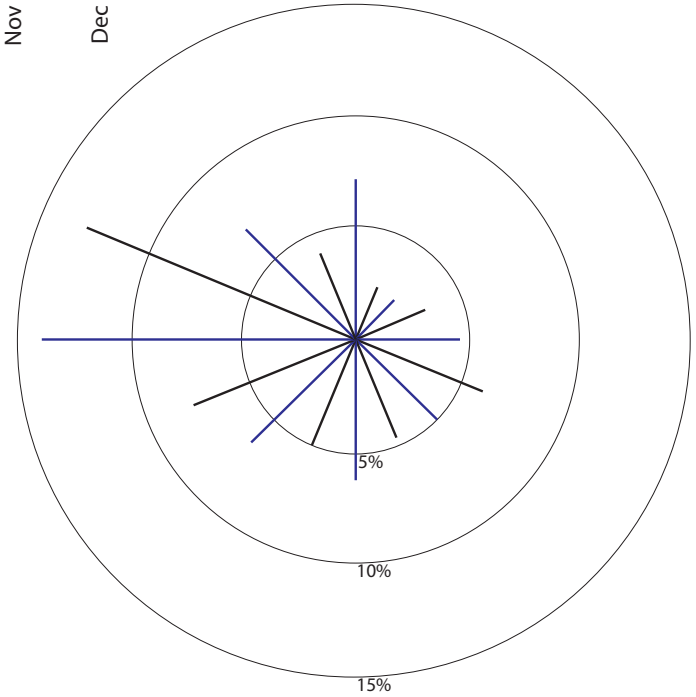

5%
10%
15%
Wind Direction

Figure 62-1 (All)

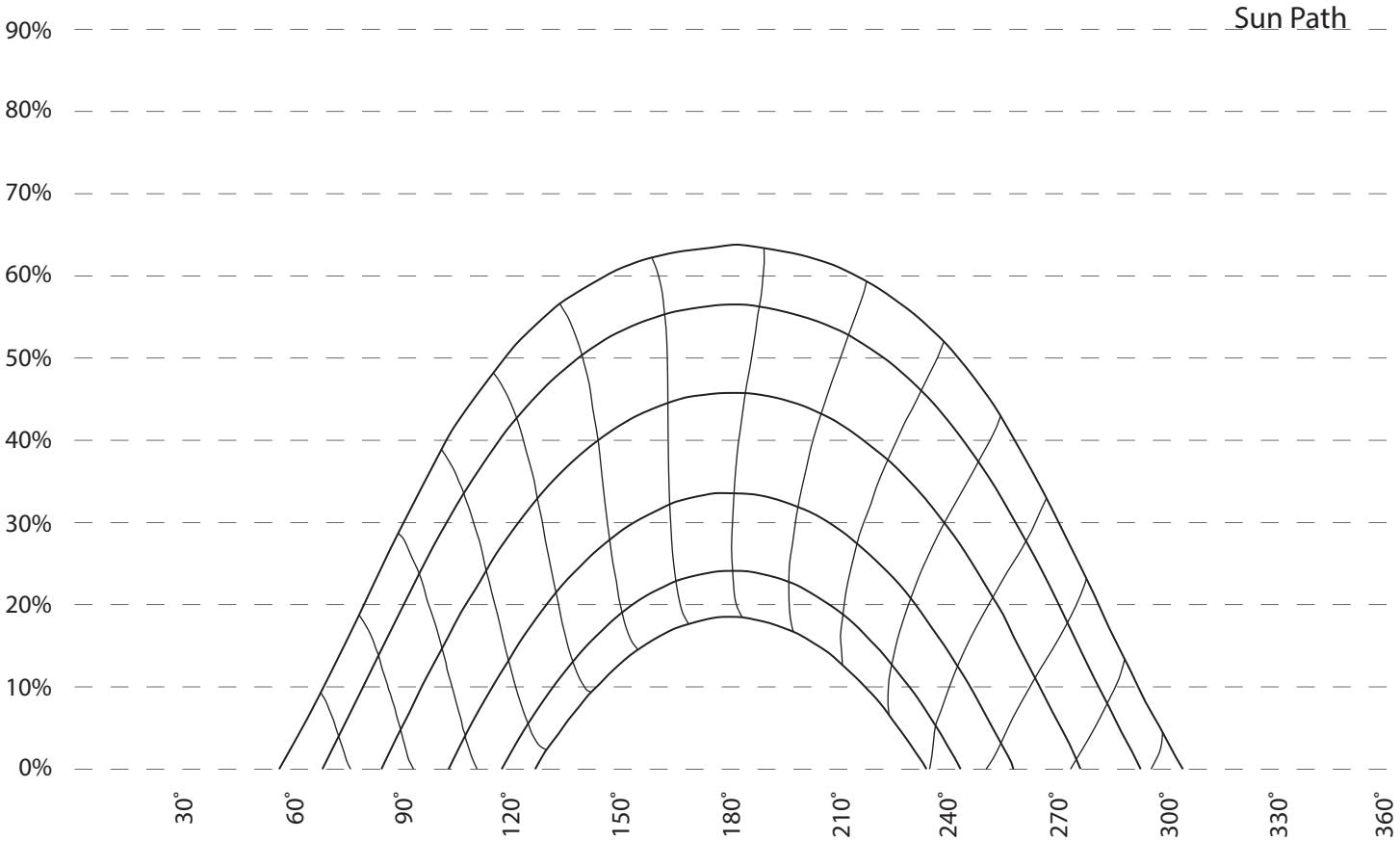
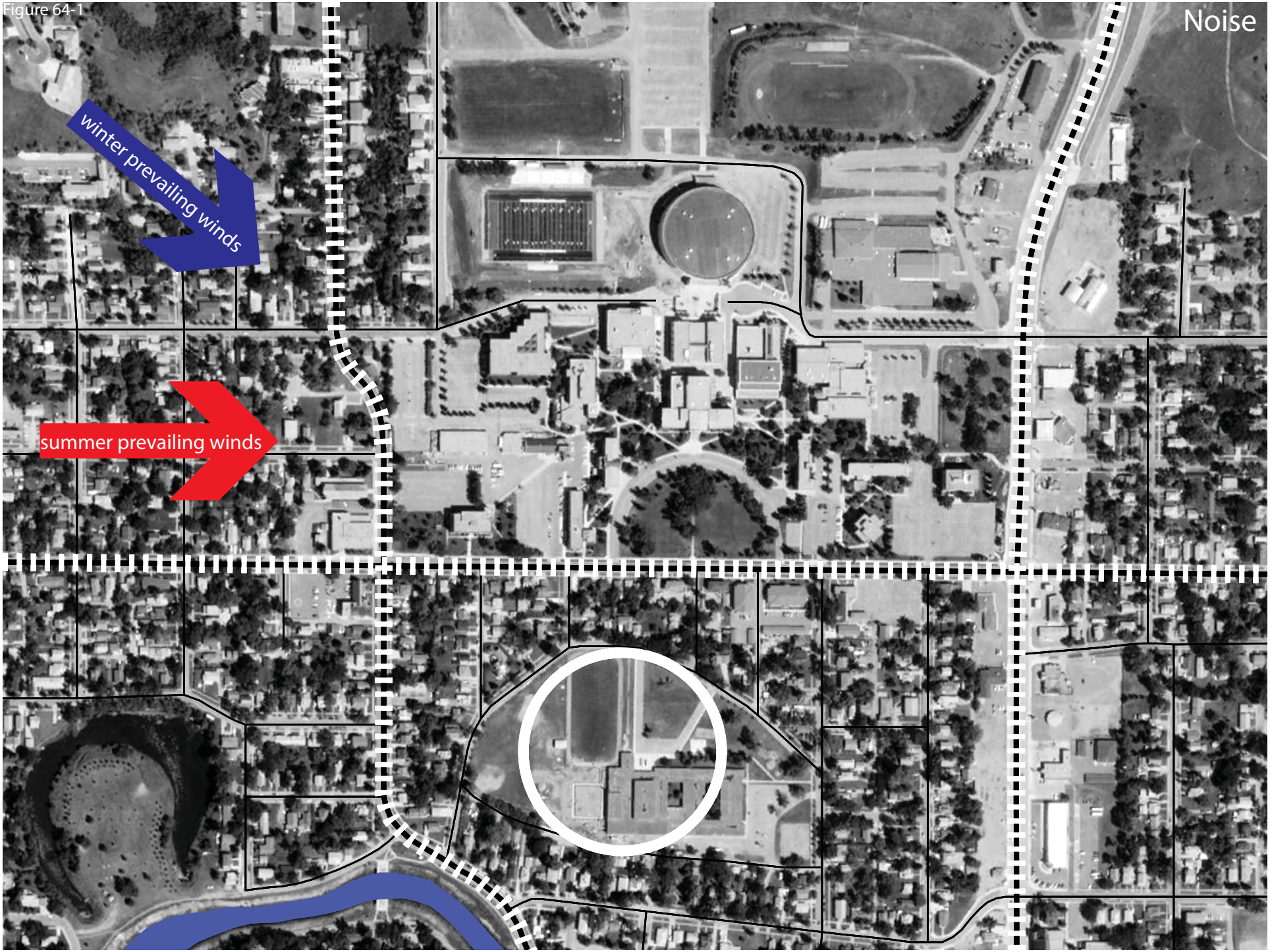


Figure 63-1

Figure 64-1



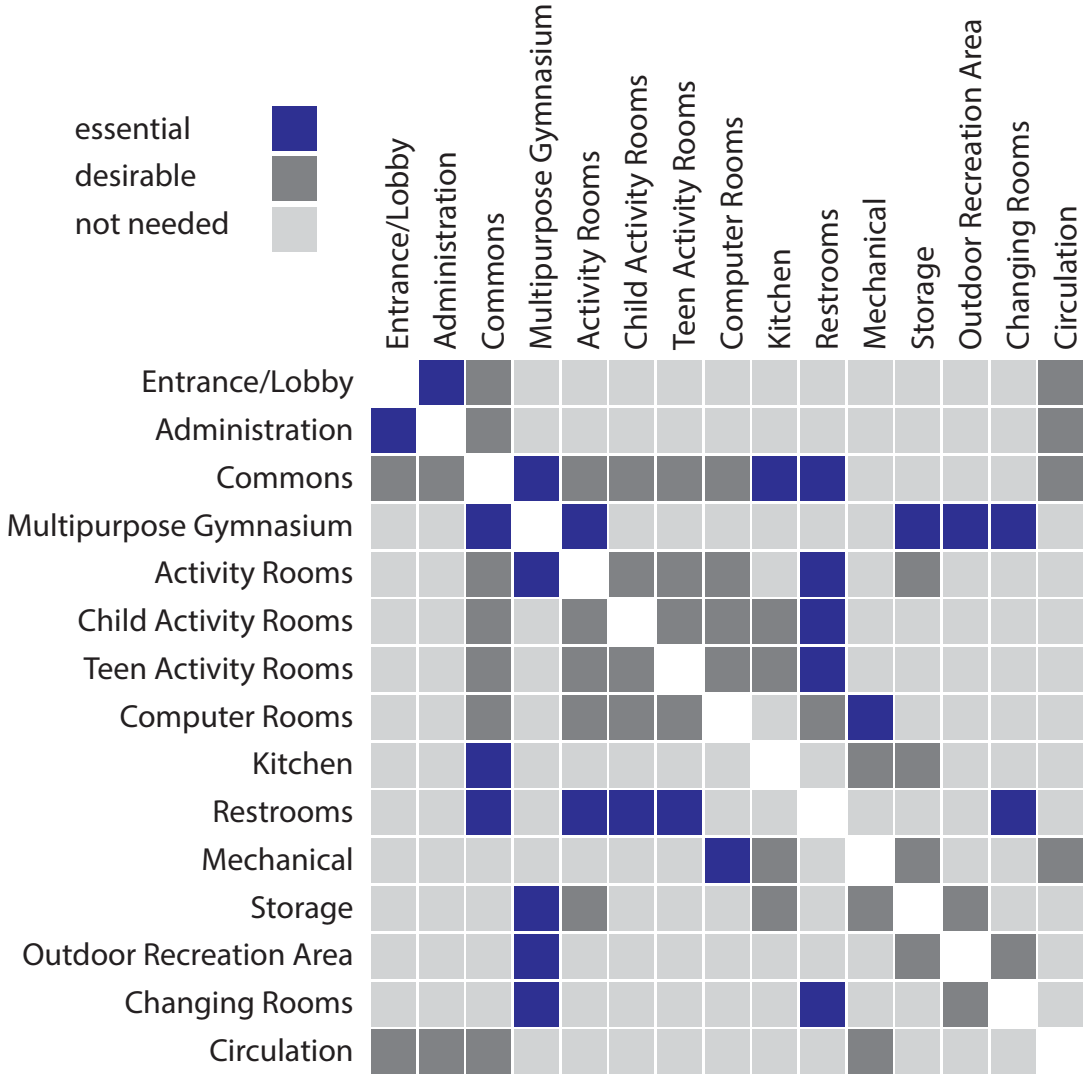
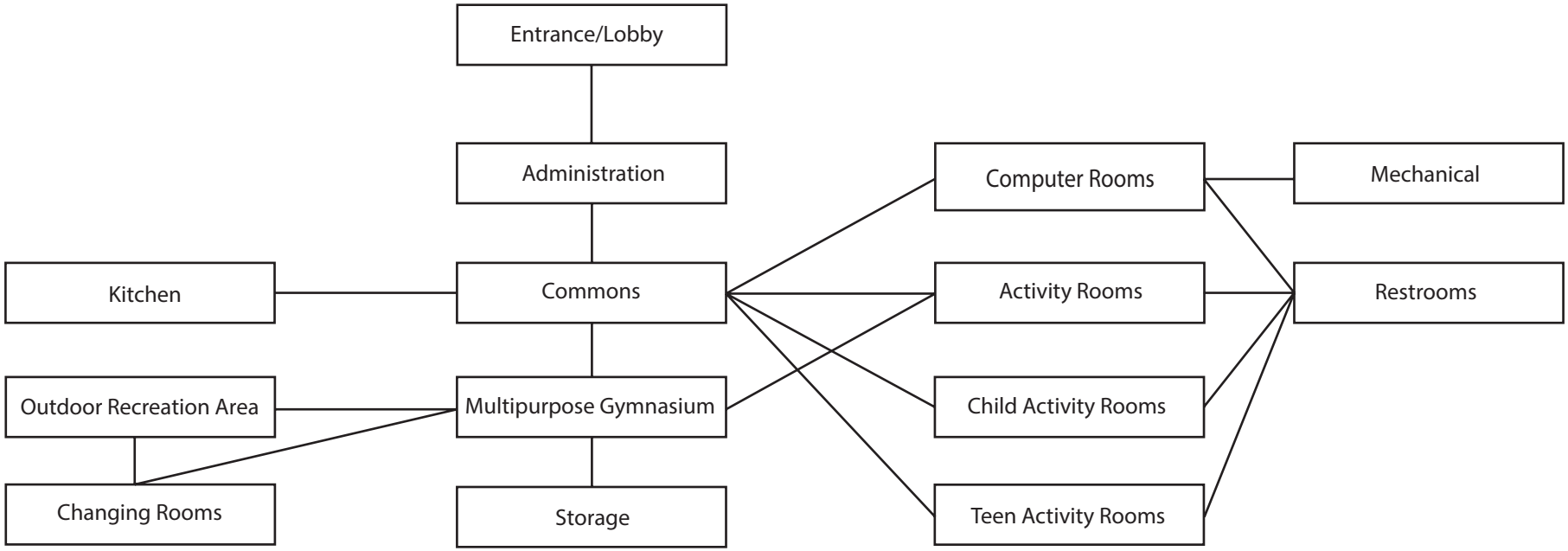

essential
desirable
not needed
Entrance/Lobby
Administration
Commons
Multipurpose Gymnasium
Activity Rooms
Child Activity Rooms
Teen Activity Rooms
Computer Rooms
Kitchen
Restrooms
Mechanical
Storage
Outdoor Recreation Area
Changing Rooms
Circulation

Figure 66-1

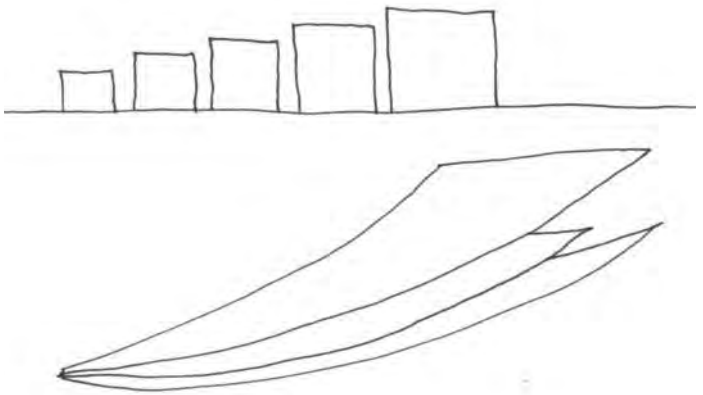

Entrance/Lobby
Administration
Computer Rooms
Mechanical
Kitchen
Commons
Activity Rooms
Restrooms
Outdoor Recreation Area
Multipurpose Gymnasium
Child Activity Rooms
Changing Rooms
Storage
Teen Activity Rooms

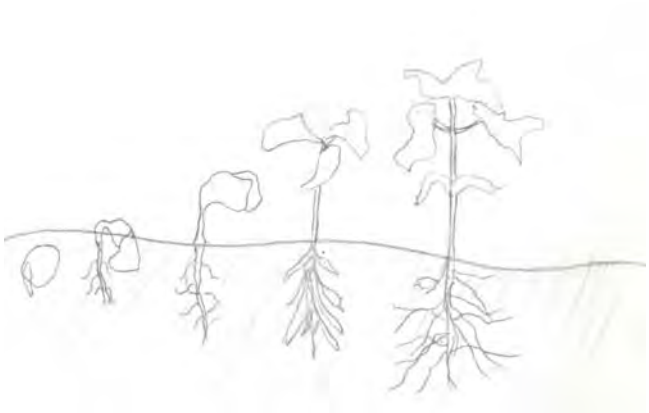
Space Allocation, by square feet

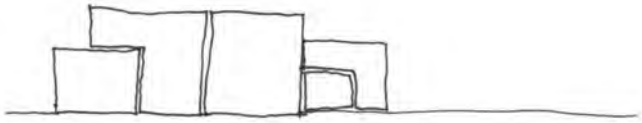
Entrance/Lobby	100 ft^2
Administration	150 ft^2
Commons	2,500 ft^2
Multipurpose Gymnasium	4,500 ft^2
Activity Rooms	1,500 ft^2
Child Activity Rooms	1,500 ft^2
Teen Activity Rooms	1,500 ft^2
Computer Rooms	1,000 ft^2
Kitchen	350 ft^2
Restrooms	300 ft^2
Mechanical	500 ft^2
Storage	1,000 ft^2
Outdoor Recreation Area	4,500 ft^2
Changing Rooms	1,000 ft^2
Circulation	2,500 ft^2
Total	22,900 ft^2

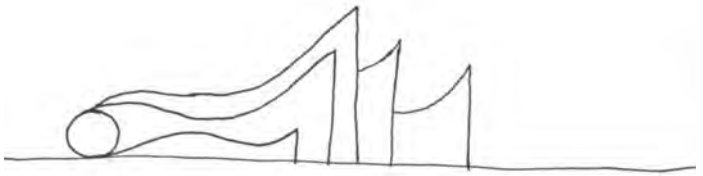
Process

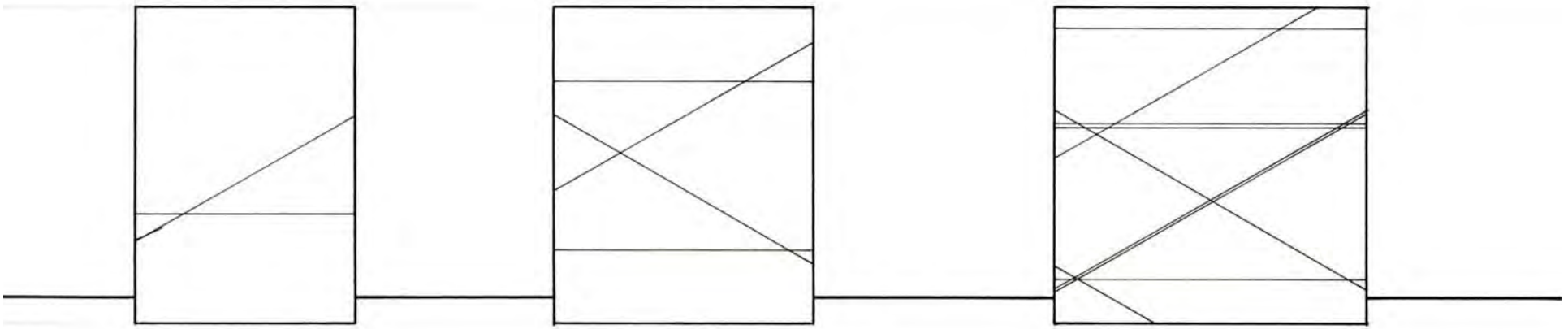
Inspirational Sketches of Growth



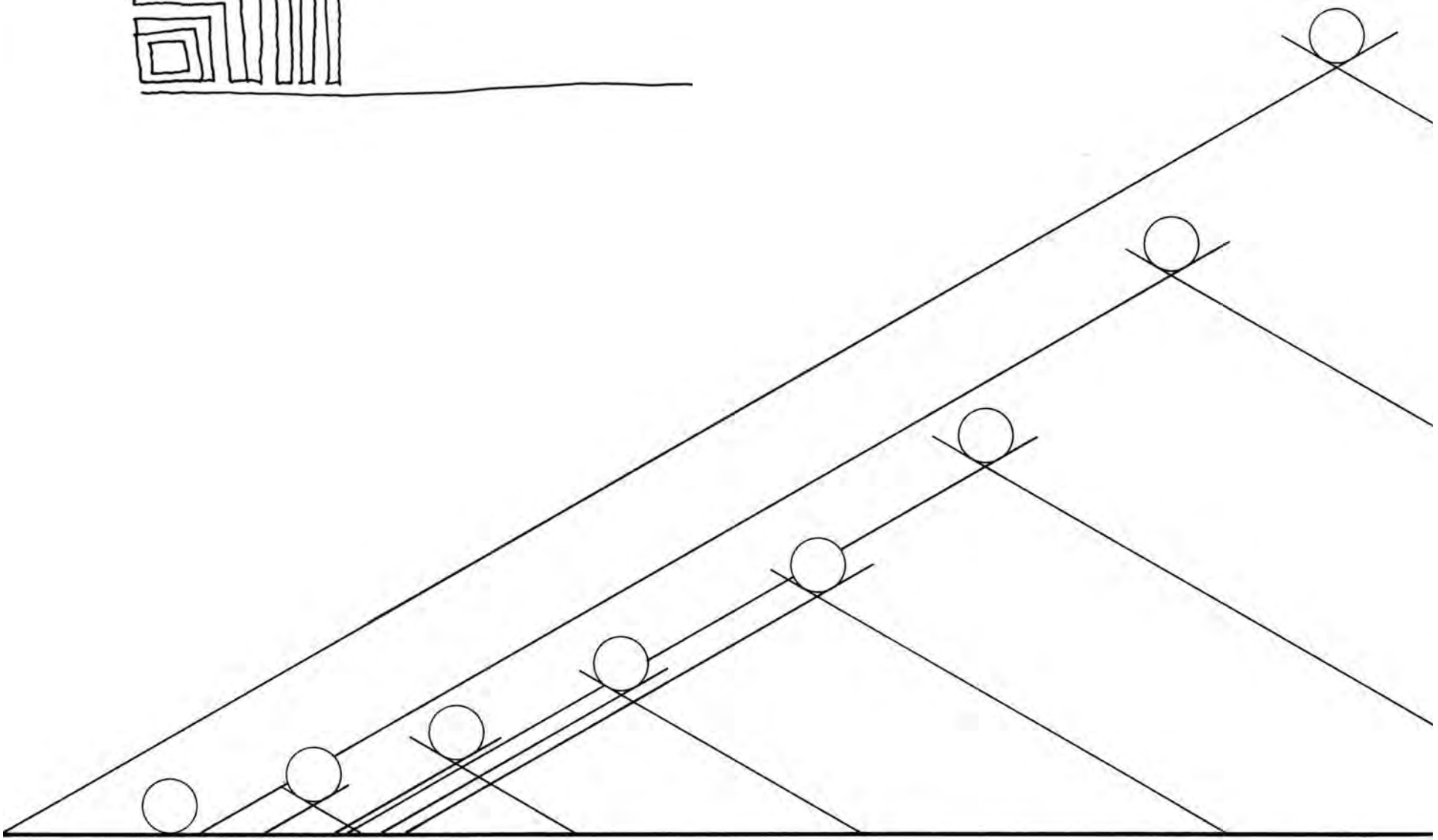


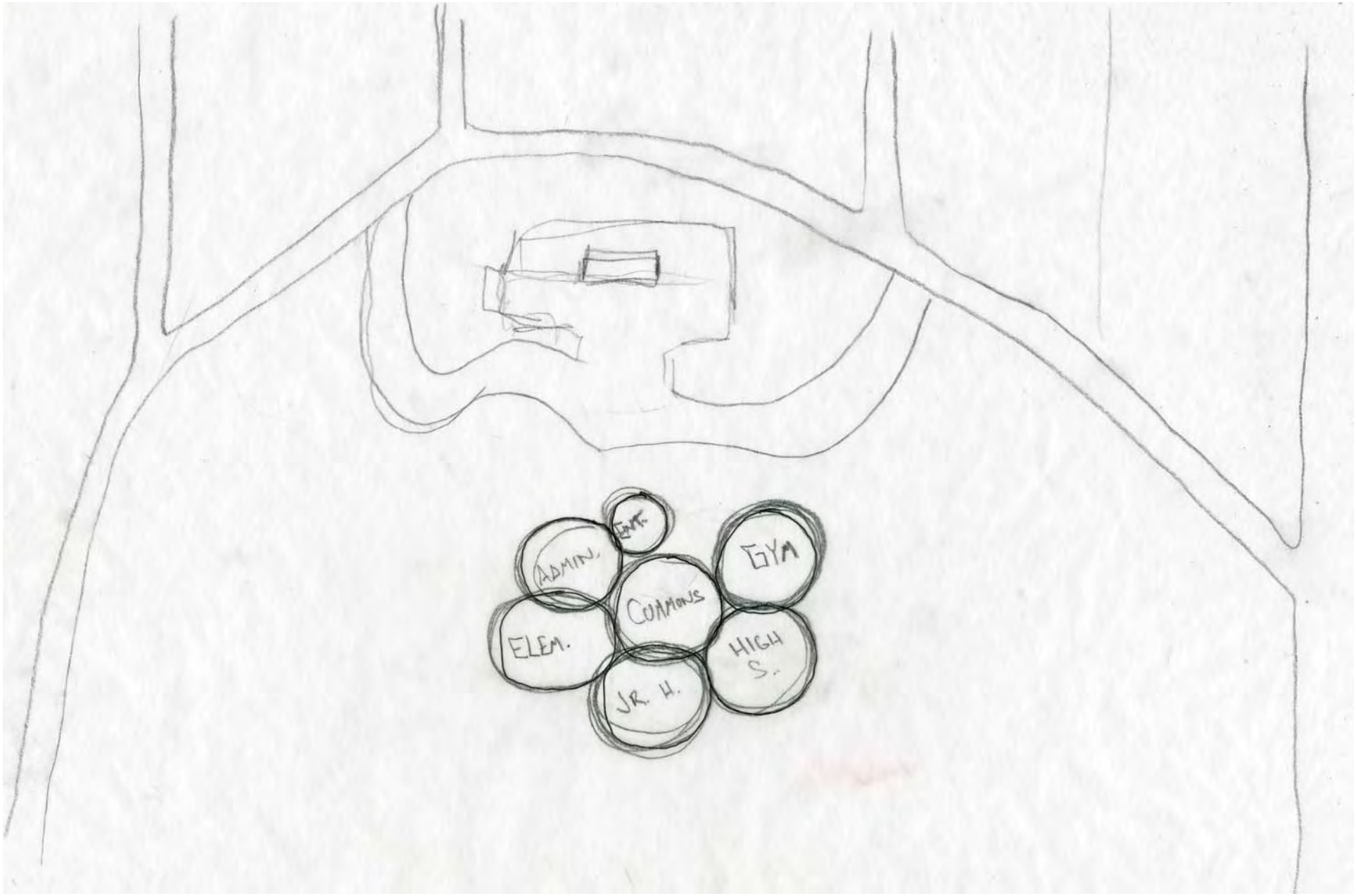


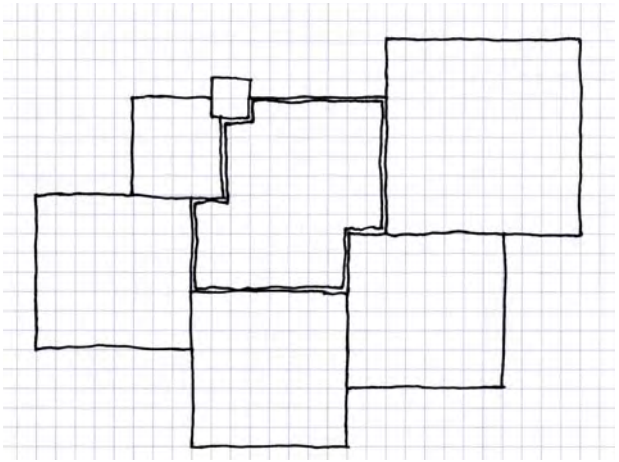


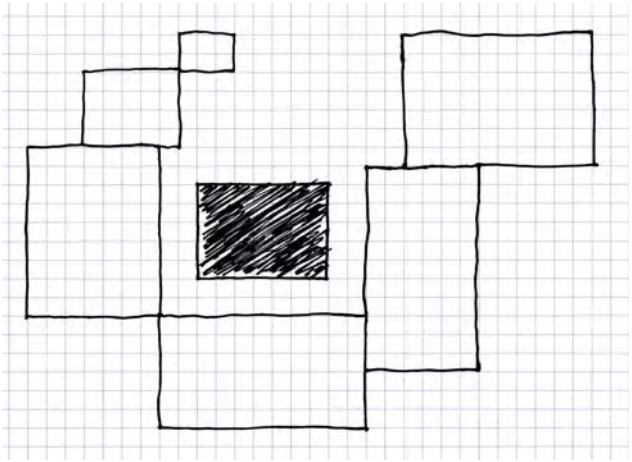


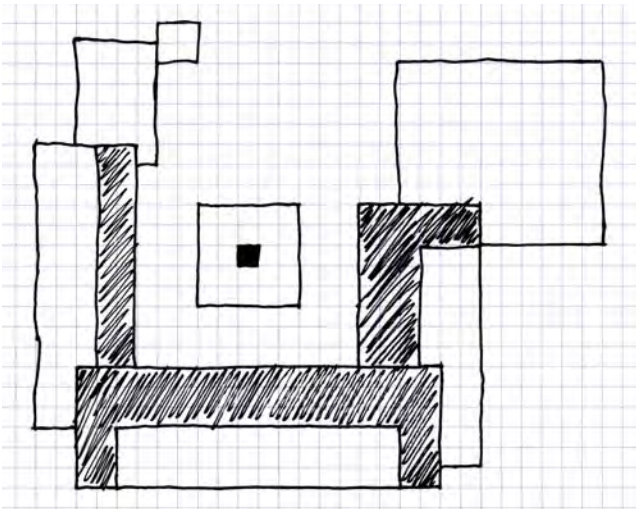
Inspirational Sketches of Growth Cont.

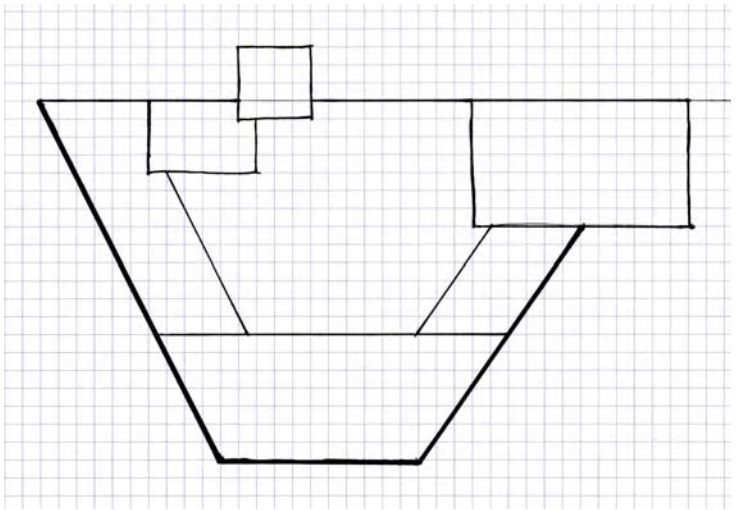


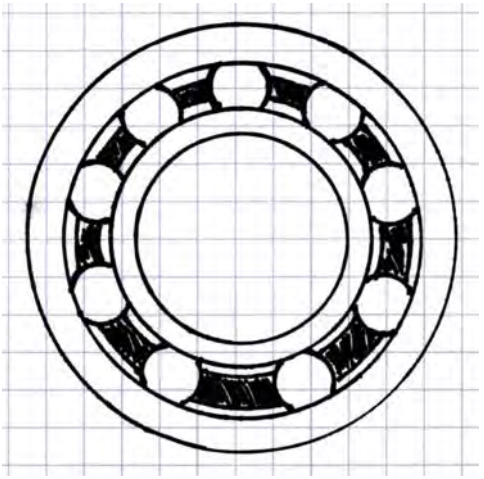

ENT.
ADMIN.
GYM
COMMONS
ELEM.
HIGH S.
JR. H.

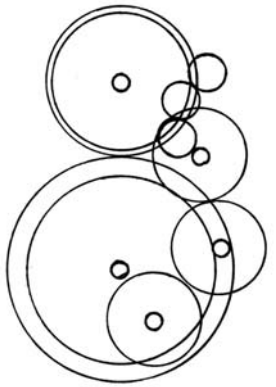


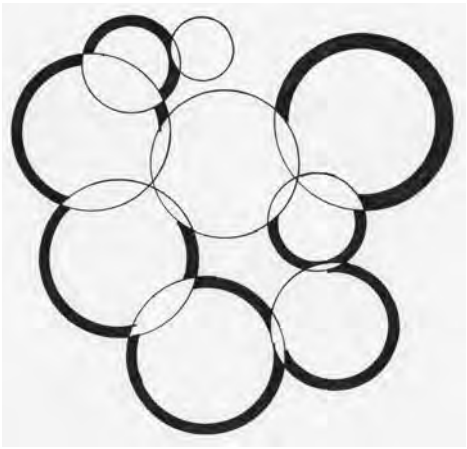


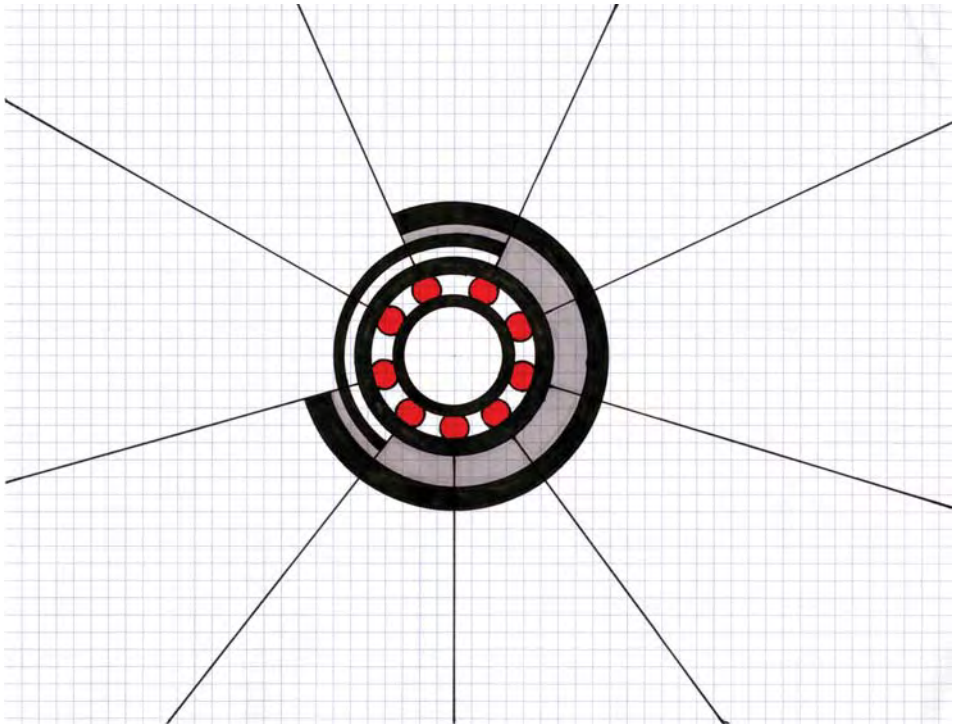


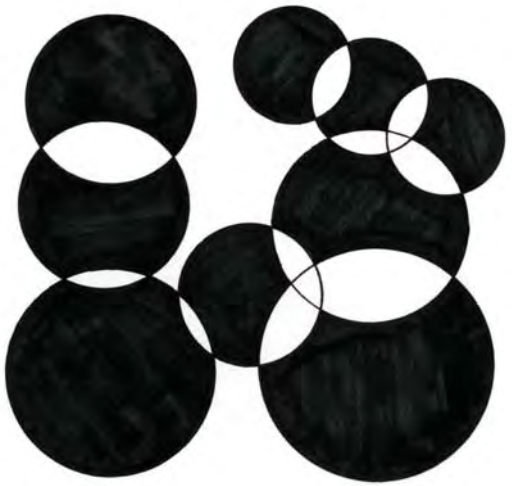




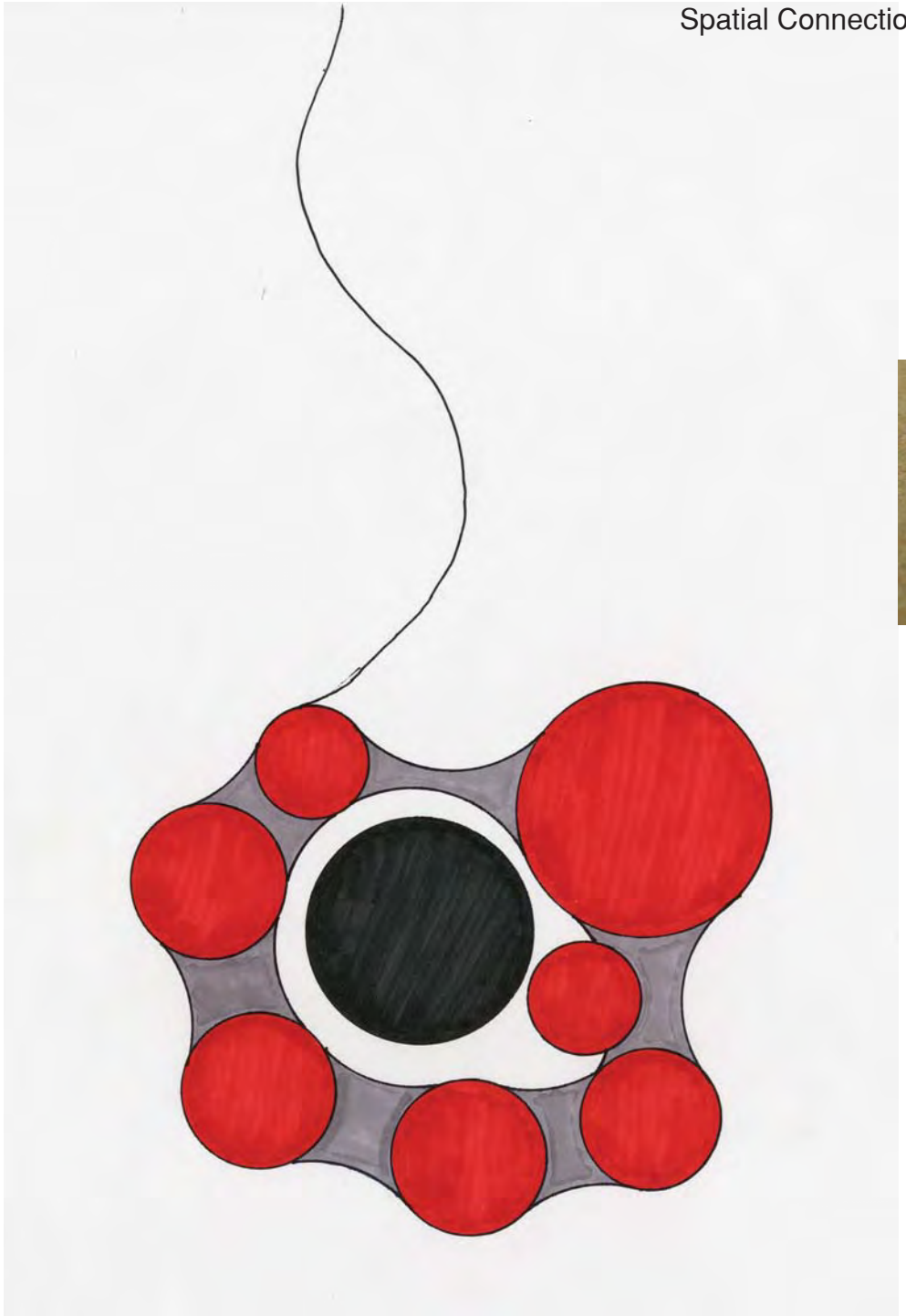


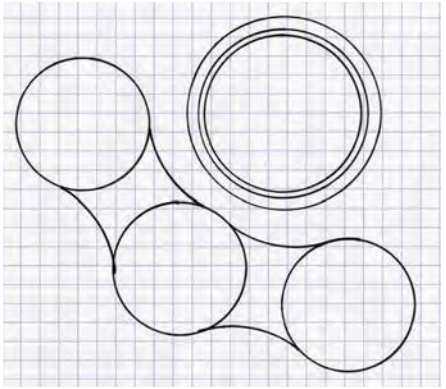


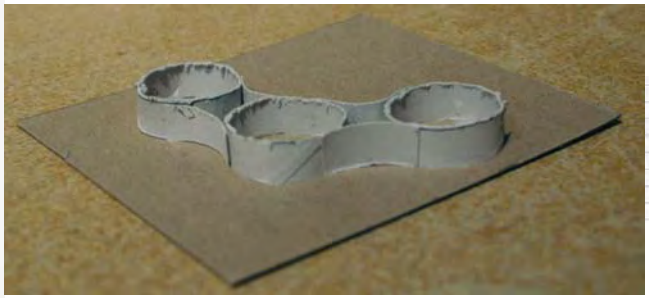


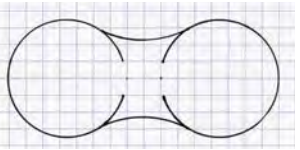


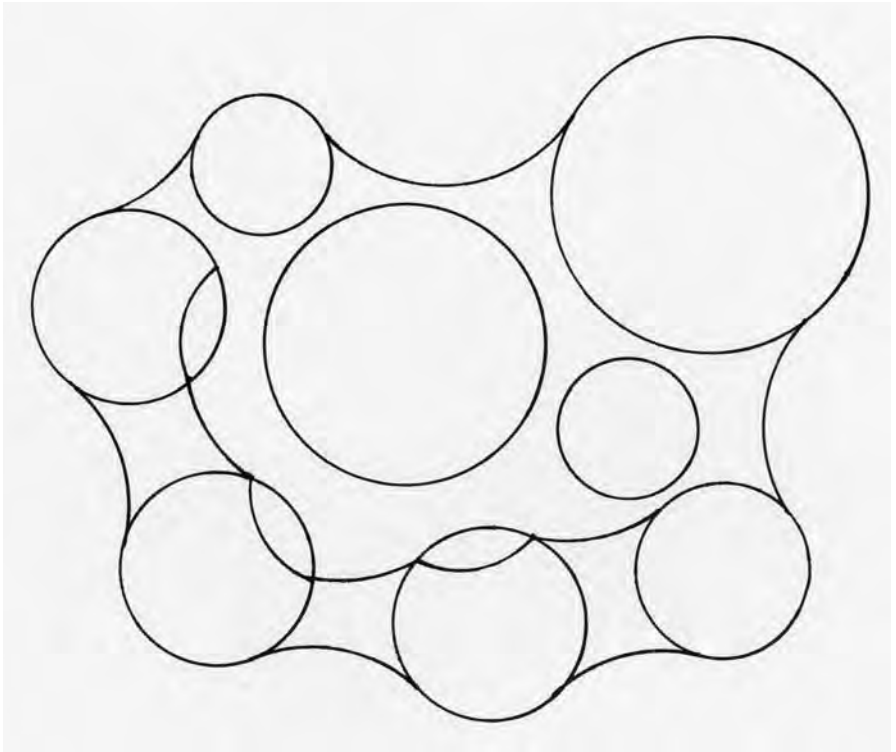
Spatial Connection Exploration



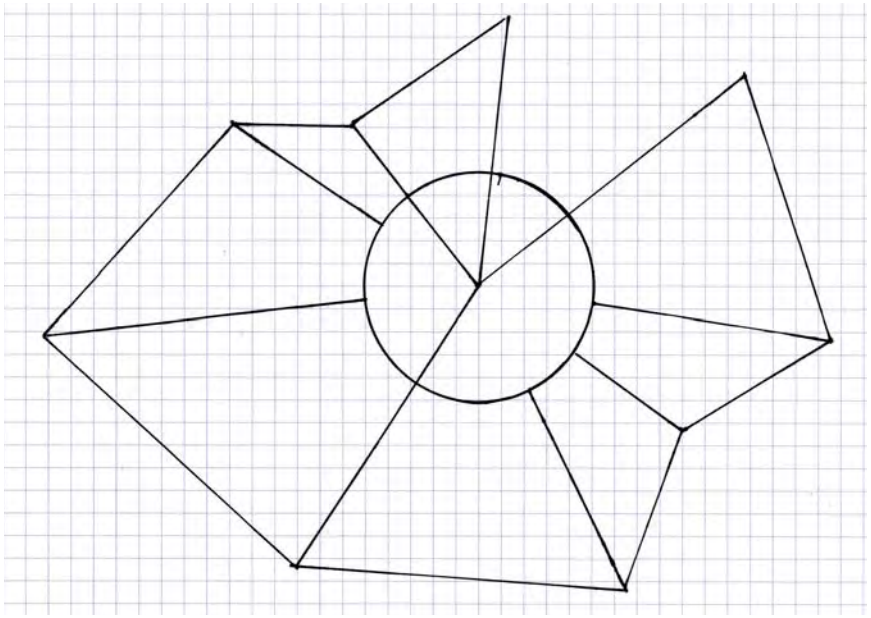


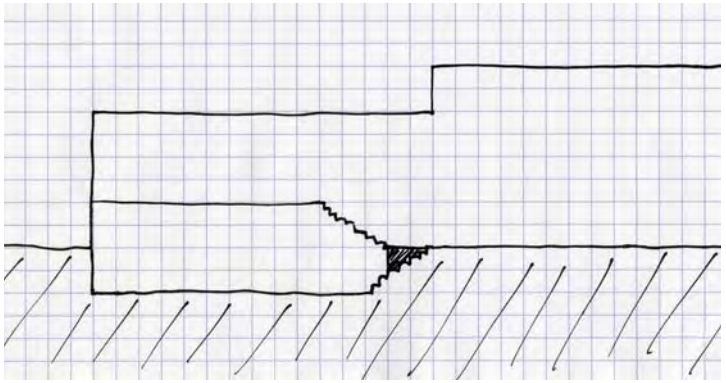


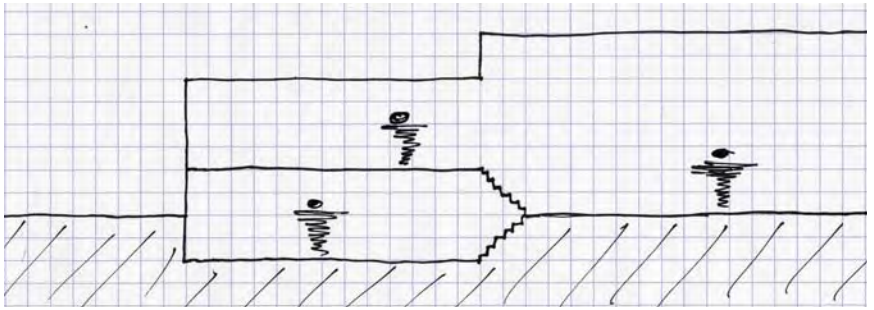


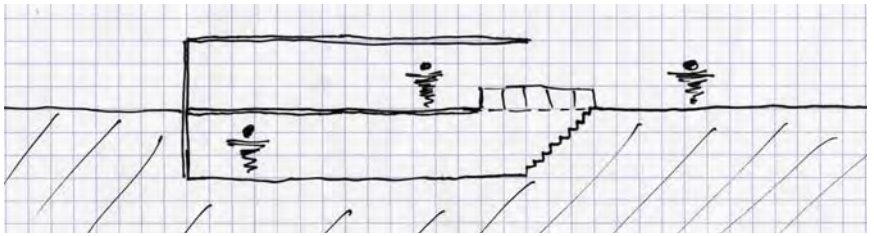


Spatial Connection Exploration Cont.

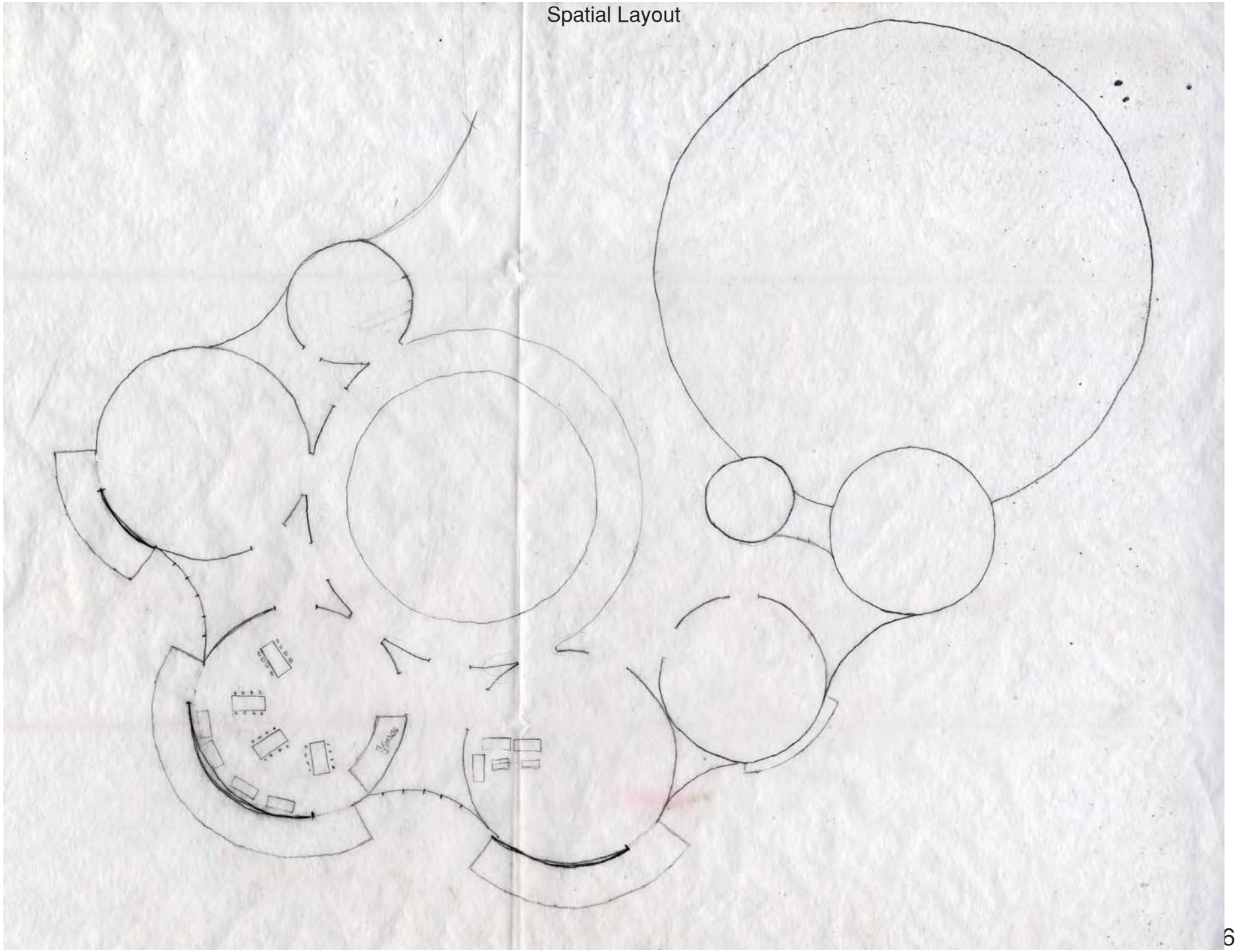




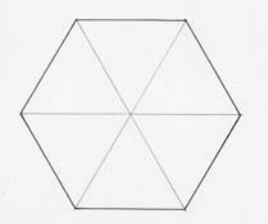


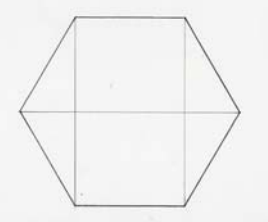


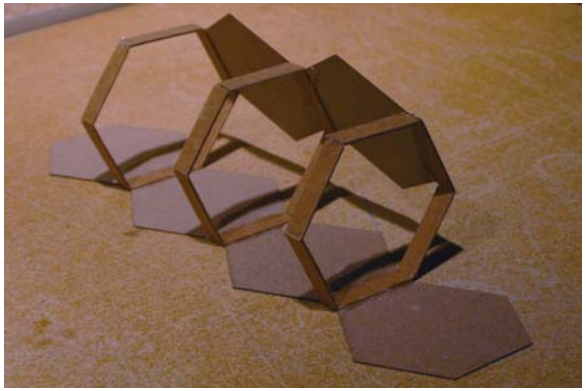
Spatial Layout

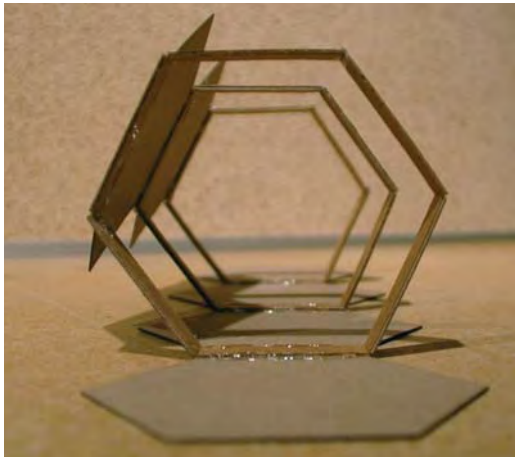


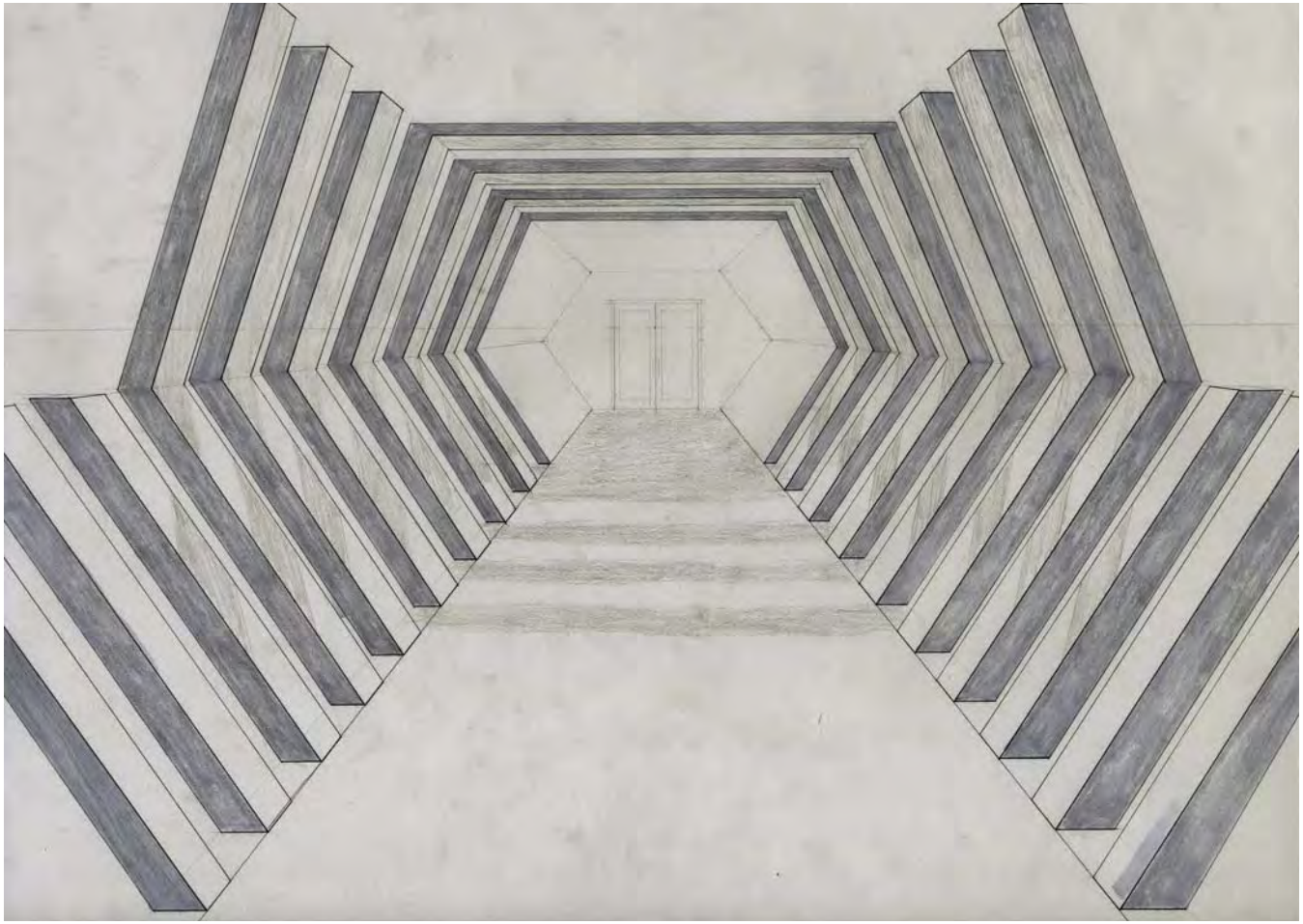
Hexagon Exploration





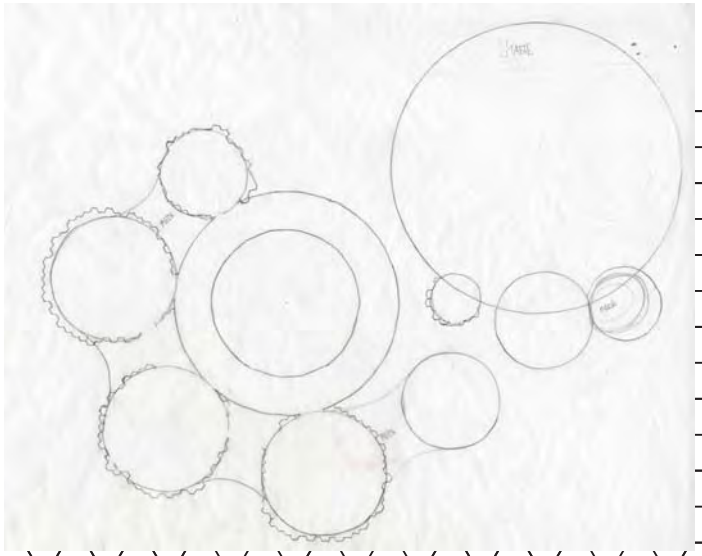


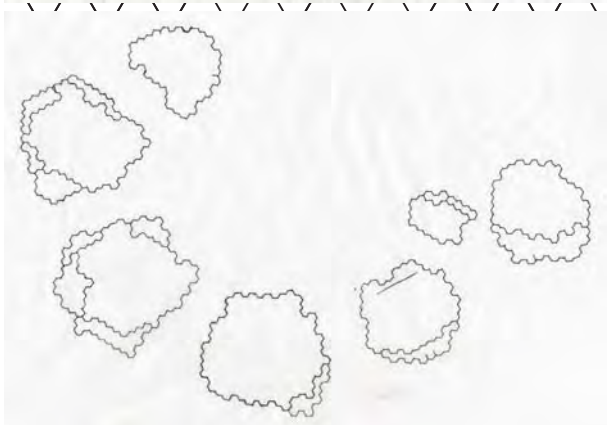


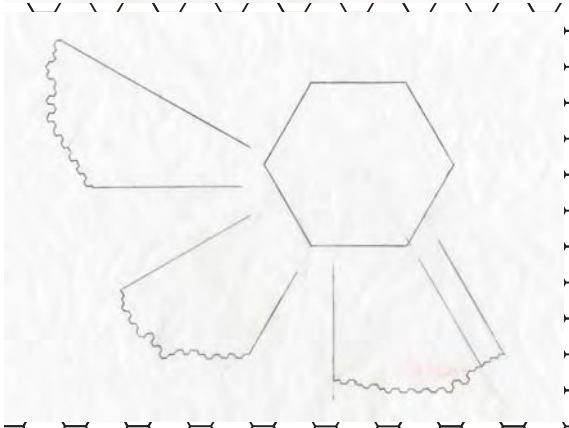


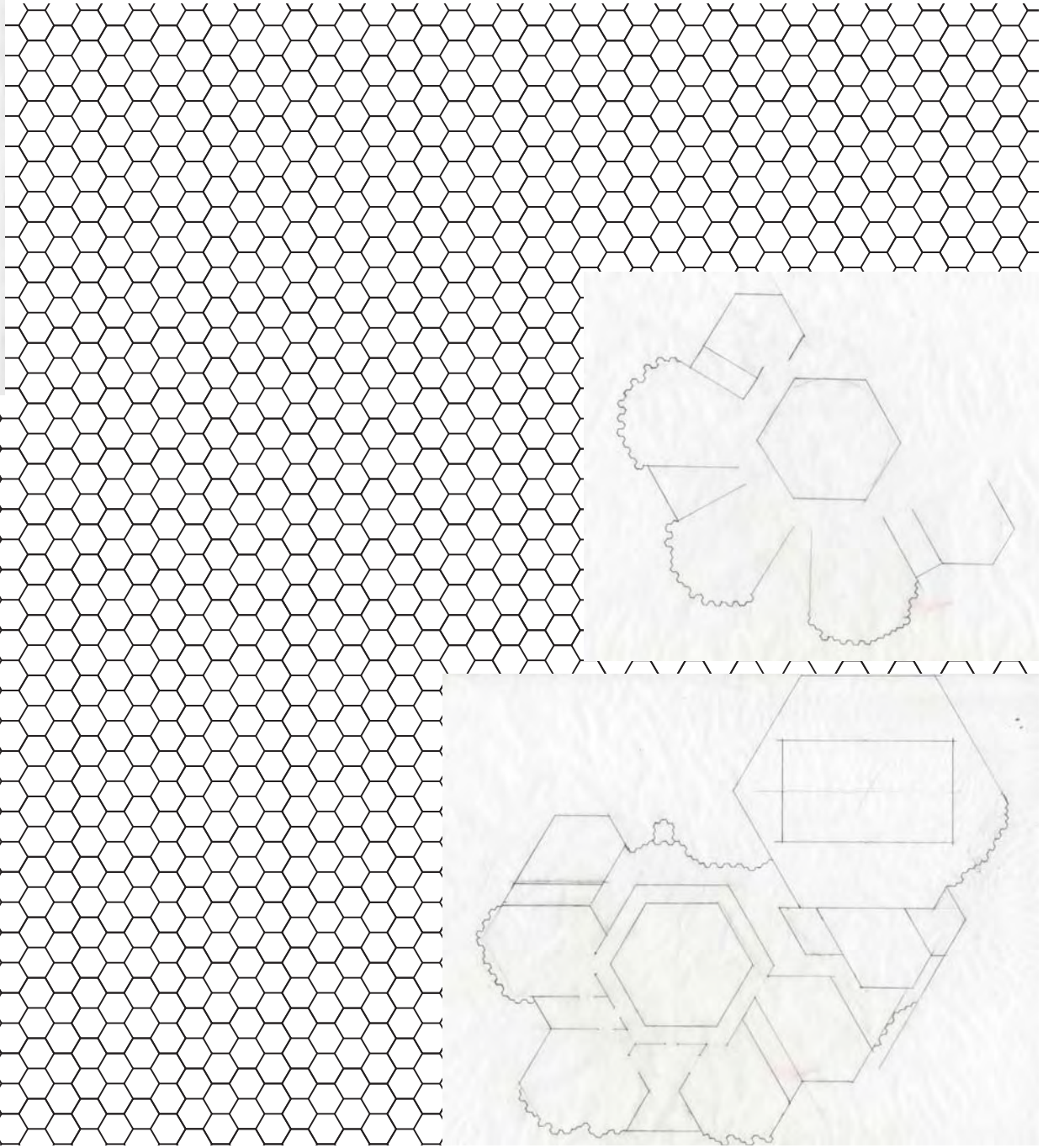
Exploration of Hexagon size used in F.L.W.'s "Honeycomb House".

Each segment of the hexagon is 2'-2" in length.



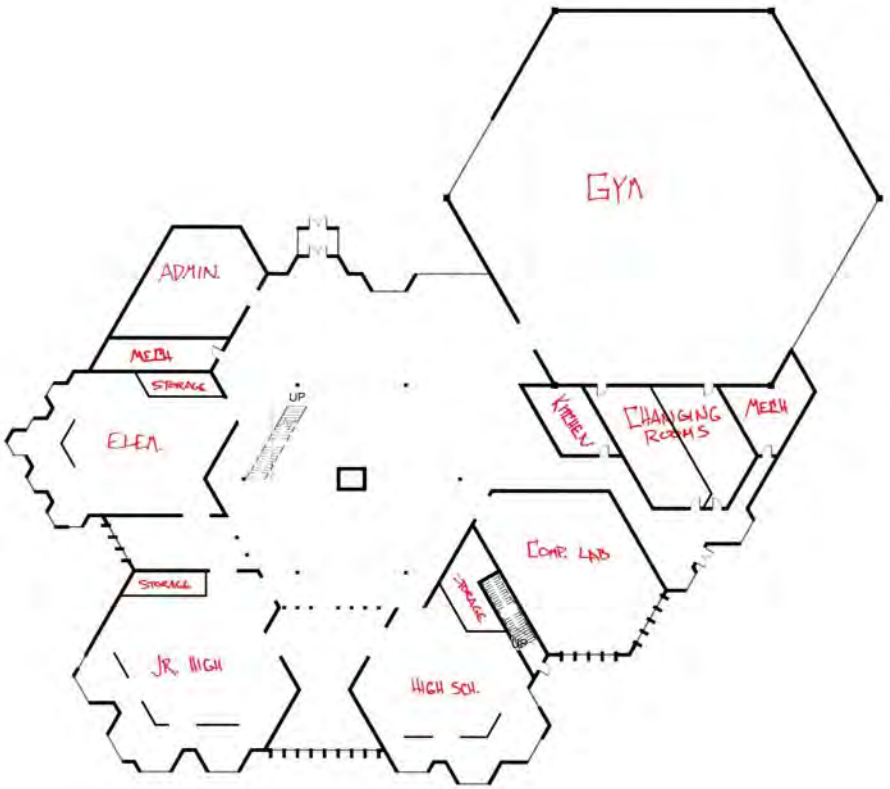


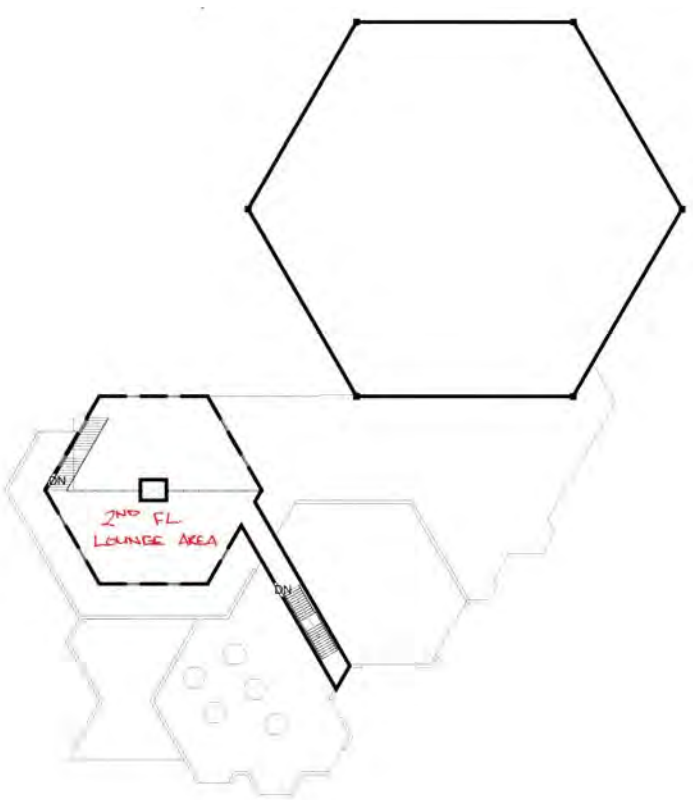




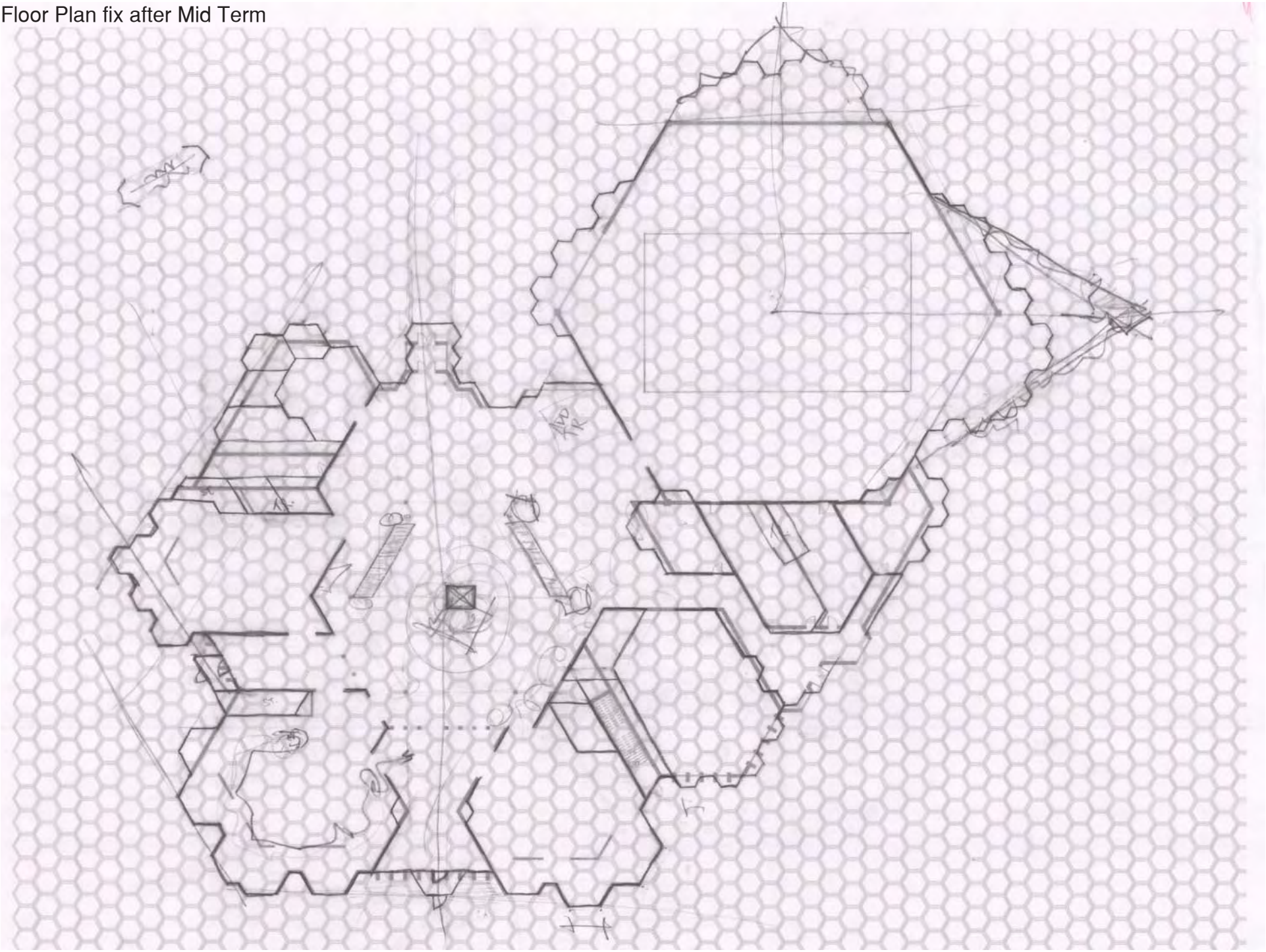
Doubled F.L.W.'s segment length to 4'-4" and used those dimensions for the superstructure.

Floor Plans at mid term.

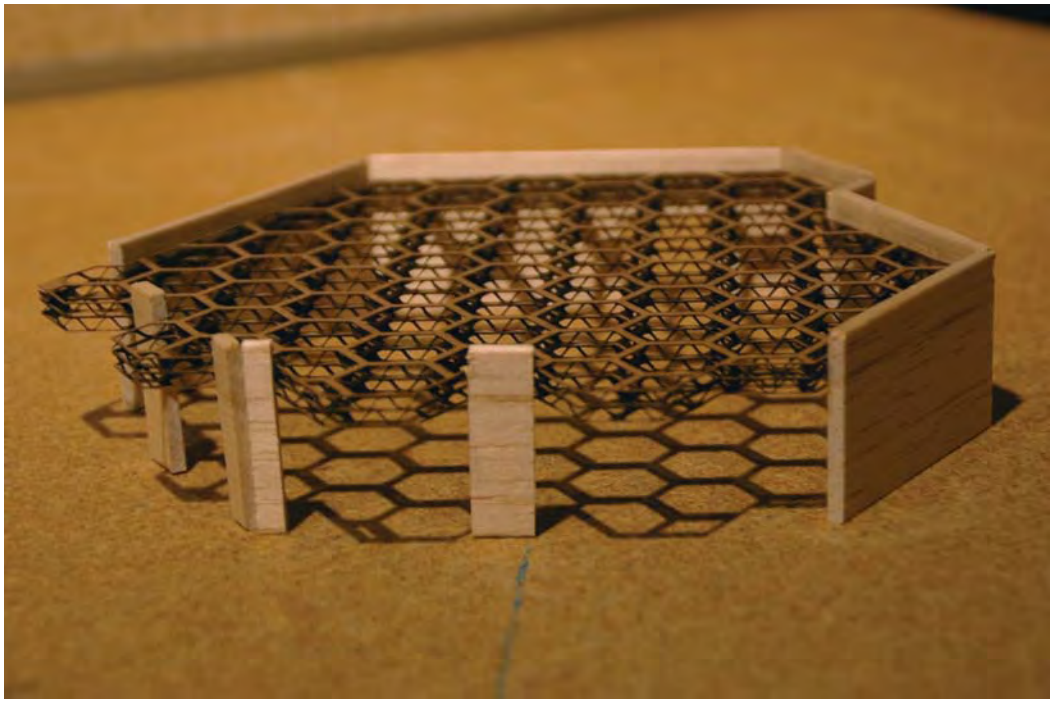


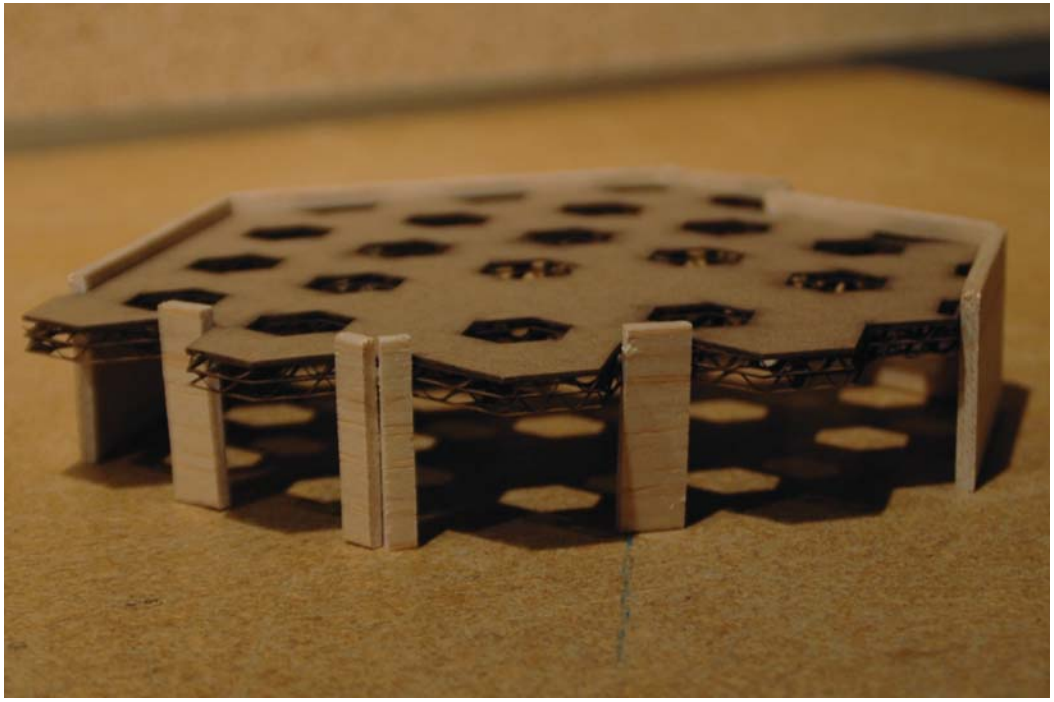


Floor Plan fix after Mid Term

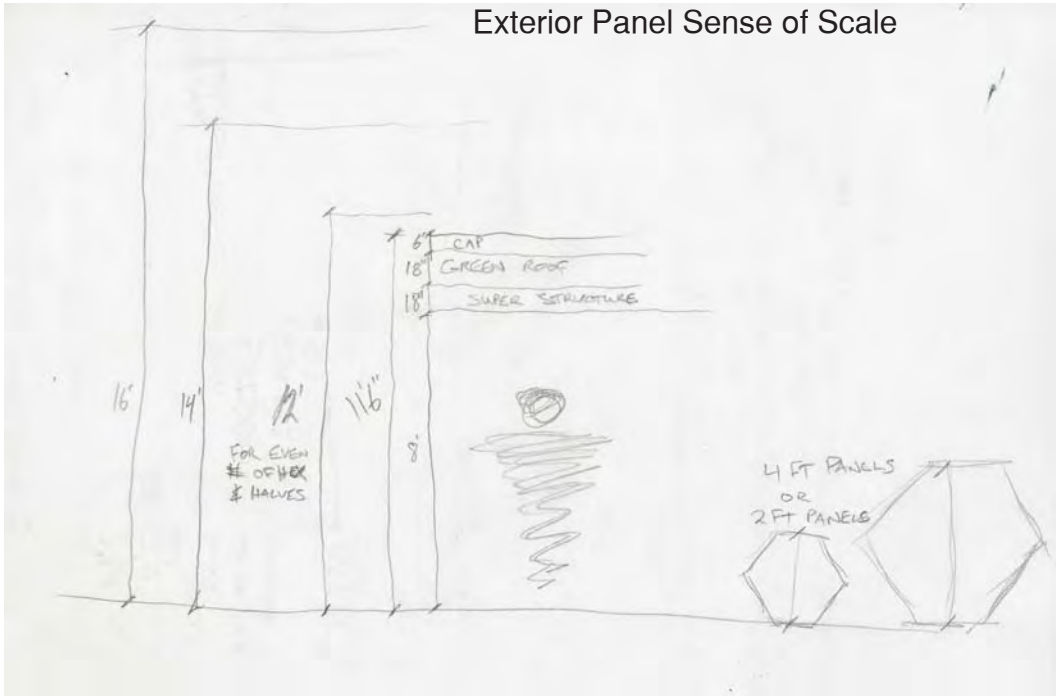


Superstructure Model

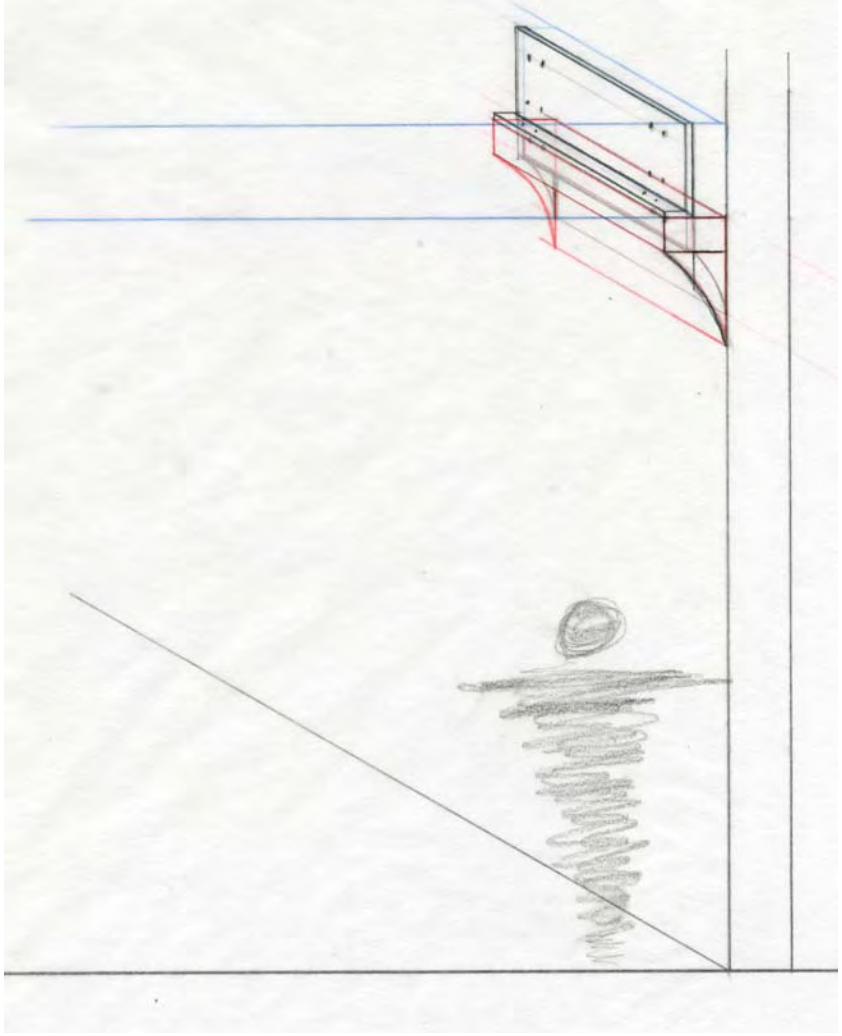


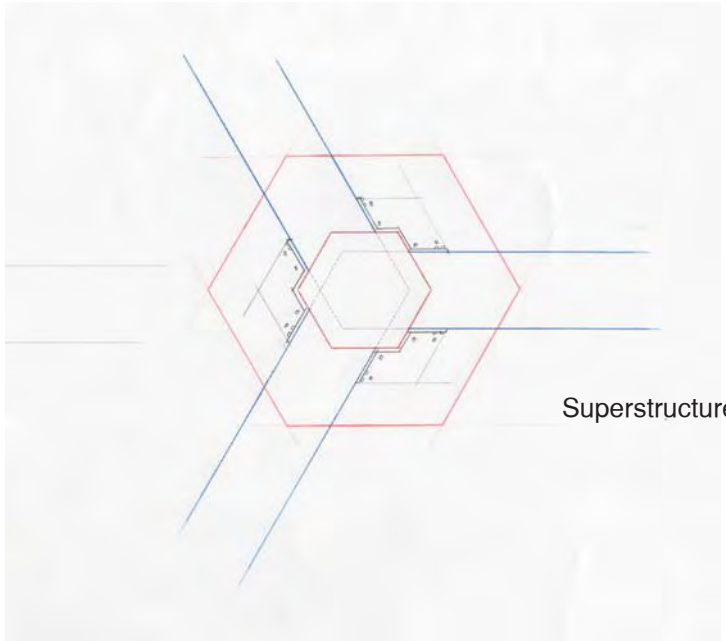


Exterior Panel Sense of Scale

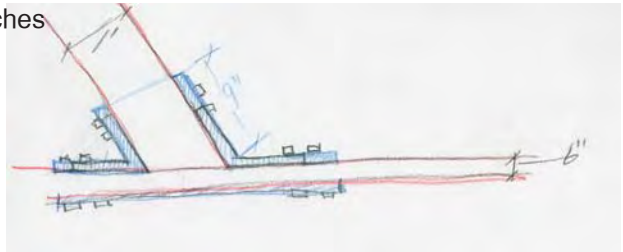


Ledger Connection with Scaled Relation to the Floor

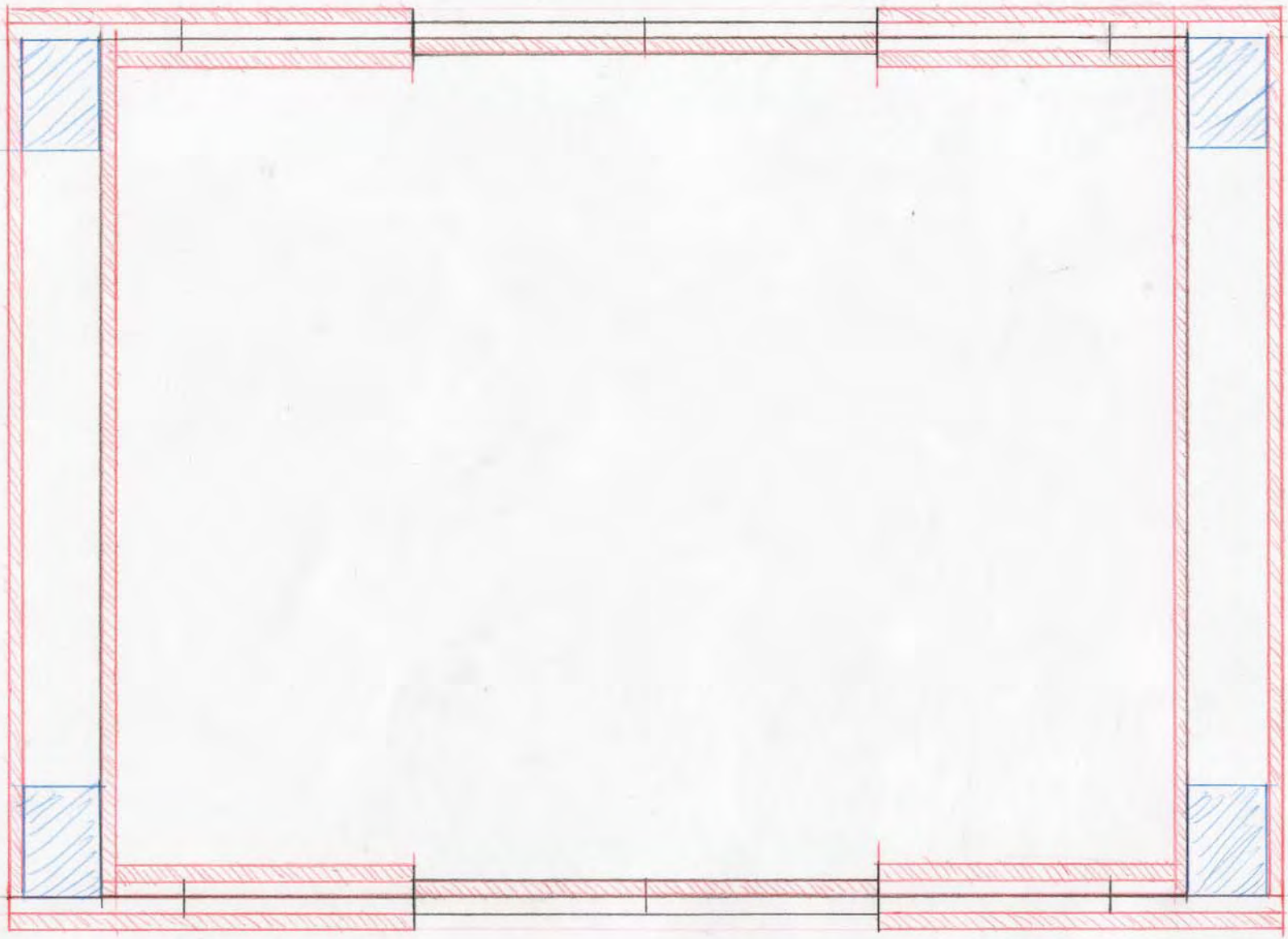




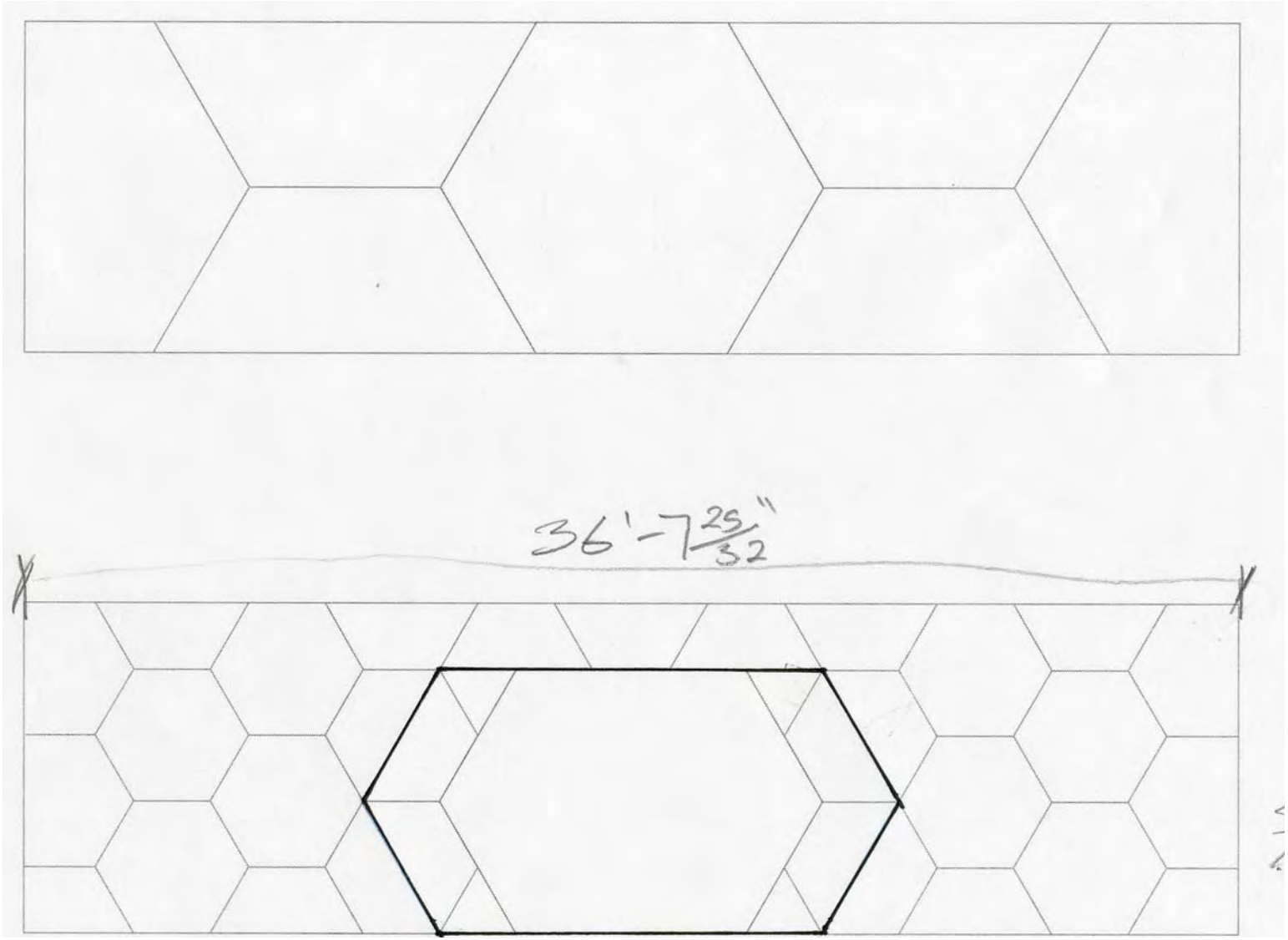
Superstructure Connection Sketches

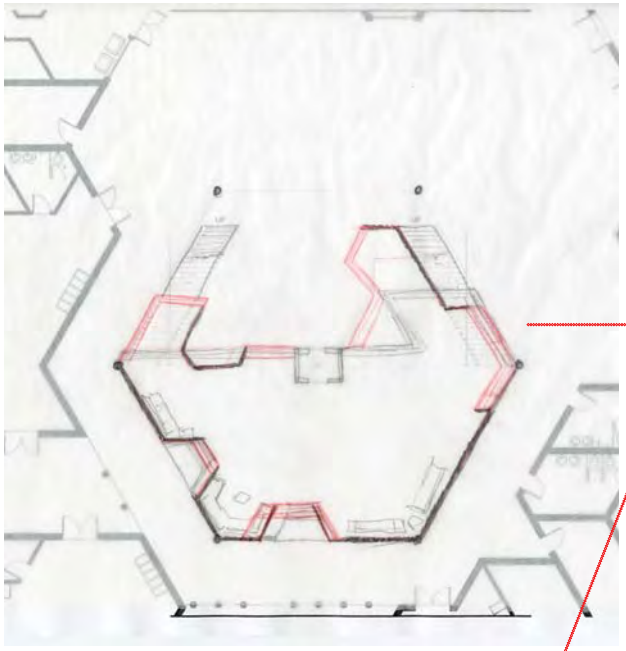


Glass Elevator Design

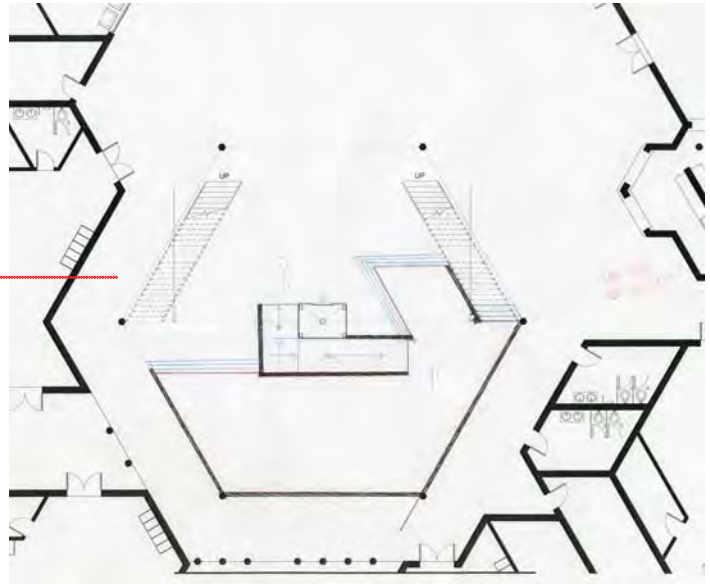


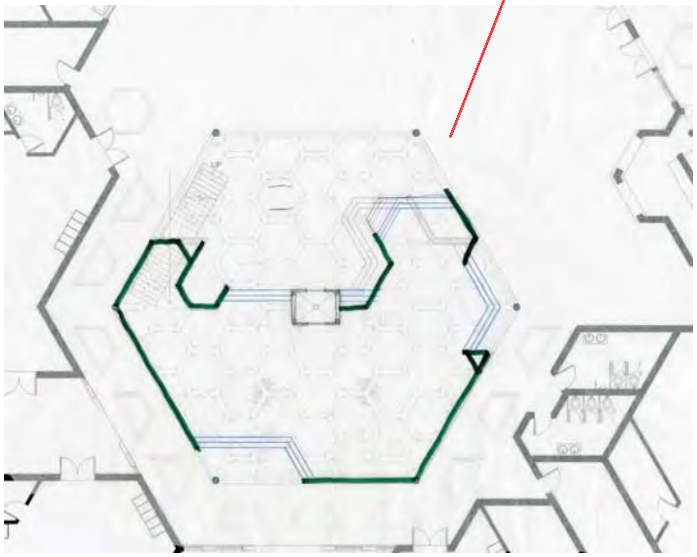
Interior Hexagon Wall Exploration



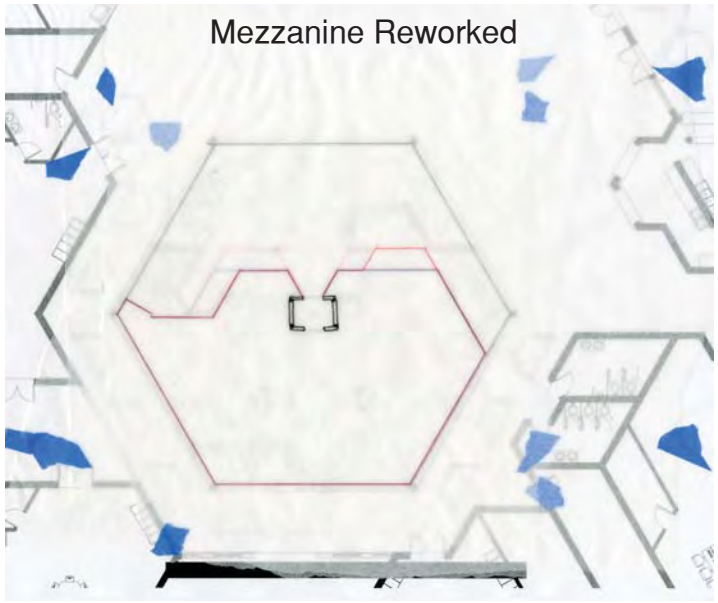


Atrium Sketches

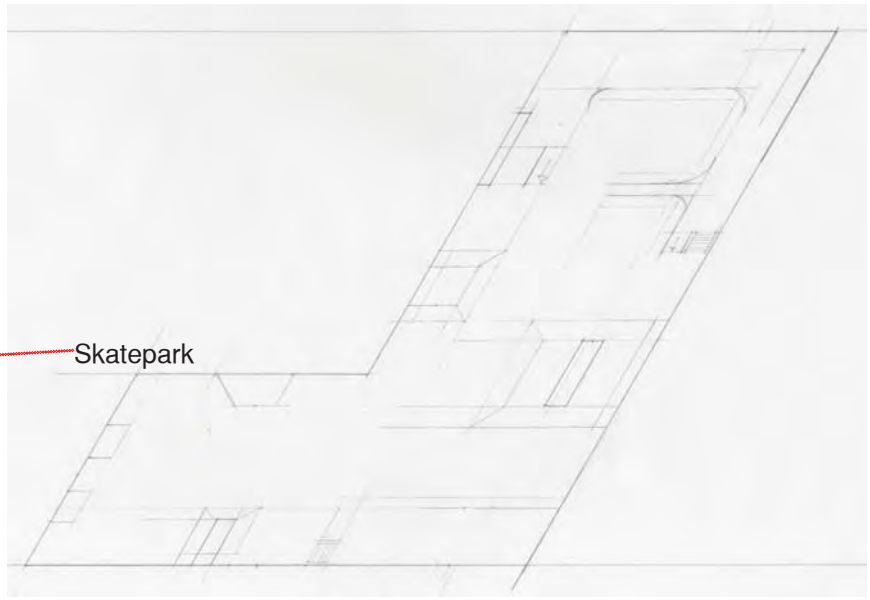




Mezzanine Reworked



Fixed Site Plan.
overlaid in color

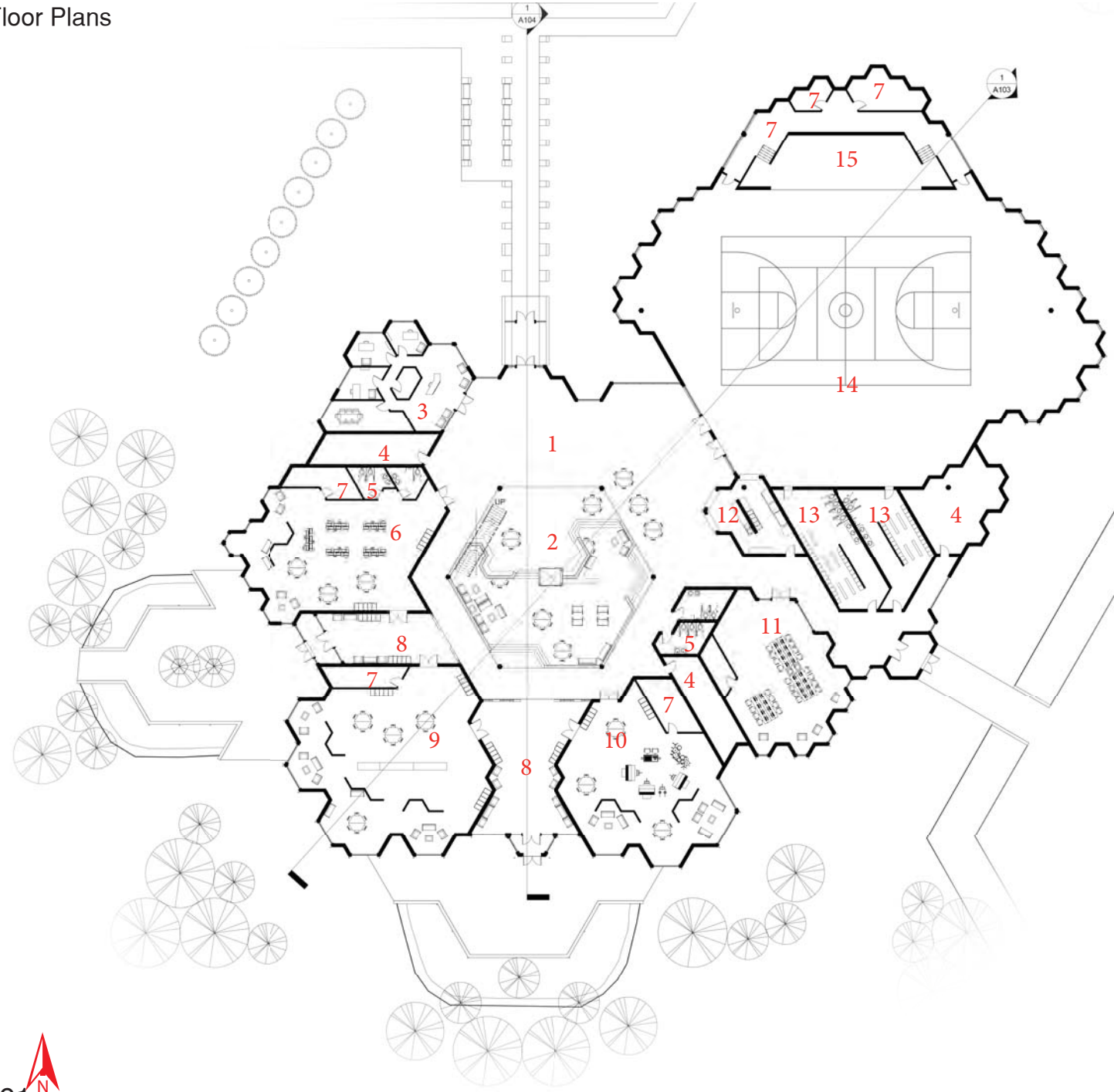


Finalized Site Plan.

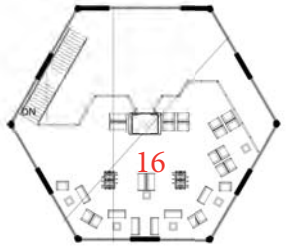
Final Project

Bird's Eye View from SE corner of Site

Site Plan

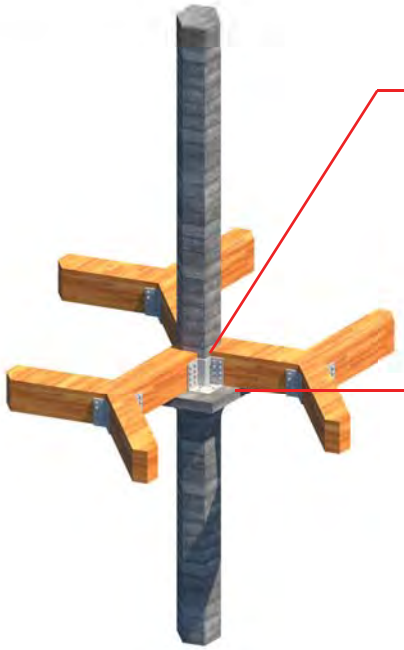


Mezzanine Floor Plan

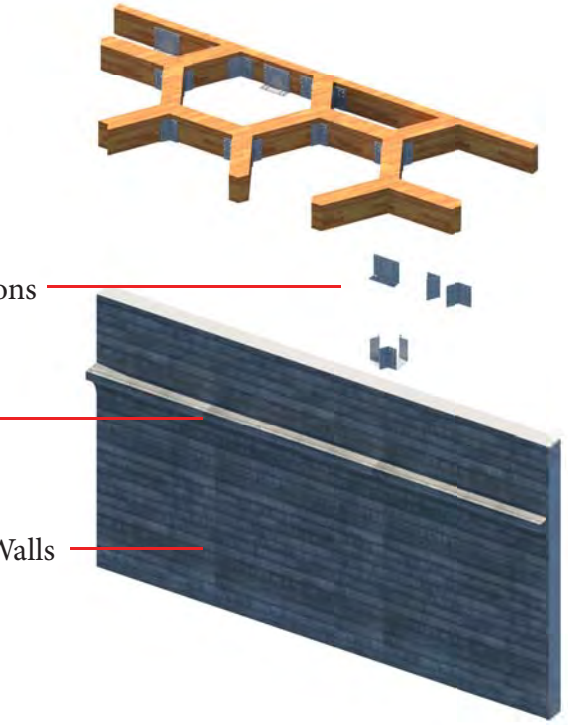


1 Lobby
2 Atrium Space
3 Offices
4 Mechanical
5 Rest Room
6 Elementary Child Space
7 Storage
8 Breakout / Transition Space
9 Middle Schooler Space
10 High Schooler Space
11 Computer Lab
12 Coffee Shop / Snack Bar
13 Locker Rooms
14 Gym
15 Stage
16 Mezzanine Lounge

Section Going NE to SW



Wood Glulam Beam
Connections to Wood Plank
Formed Concrete Column



Wood Glulam Beam Connections

Concrete Ledger

Wood Plank Formed Concrete Walls

Exterior Panels: Weathered Steel
Zinc
Copper

Section Going North to South

Exterior Entry Perspective

Interior Entry Perspective

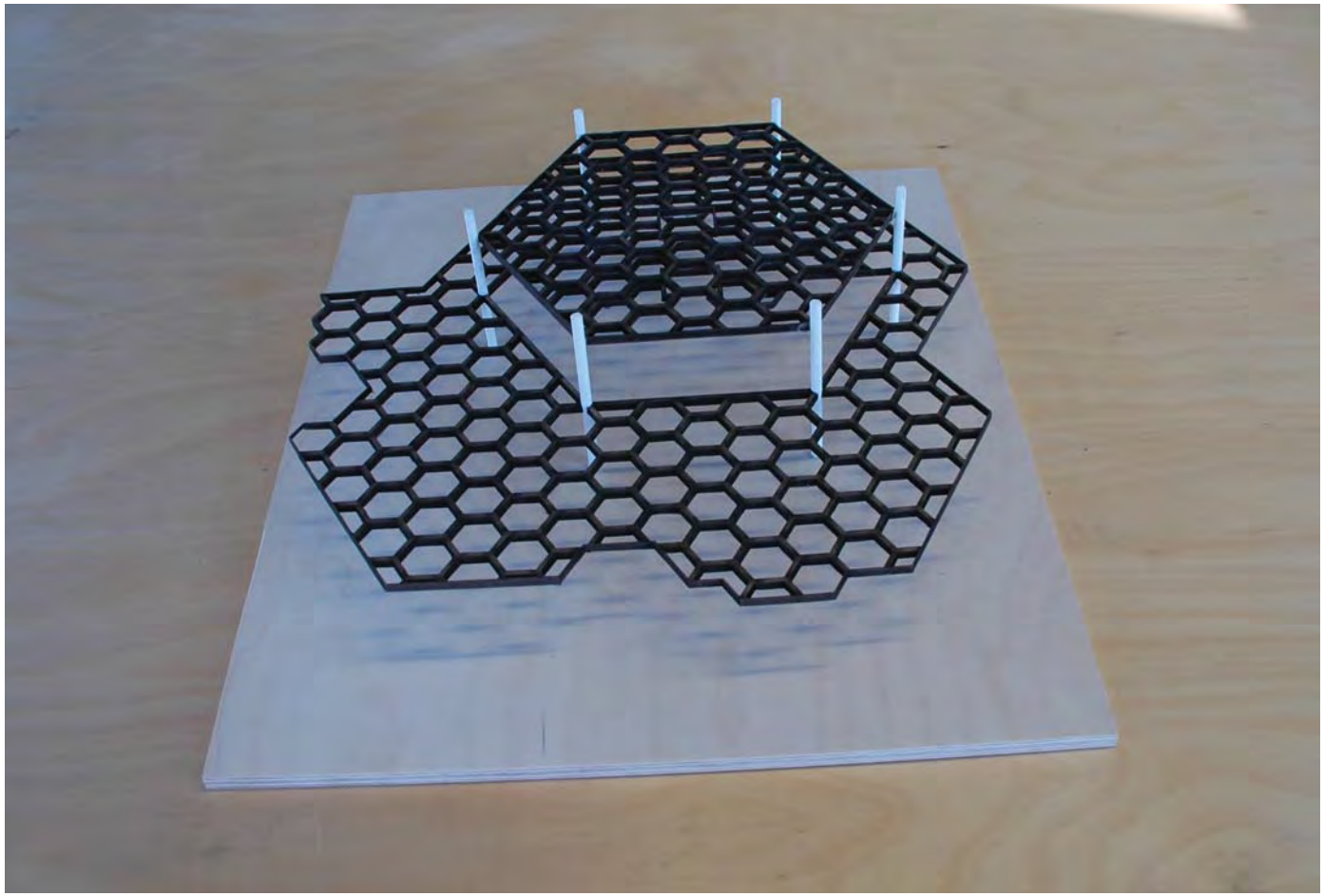
Perspective from Atrium Step-Up

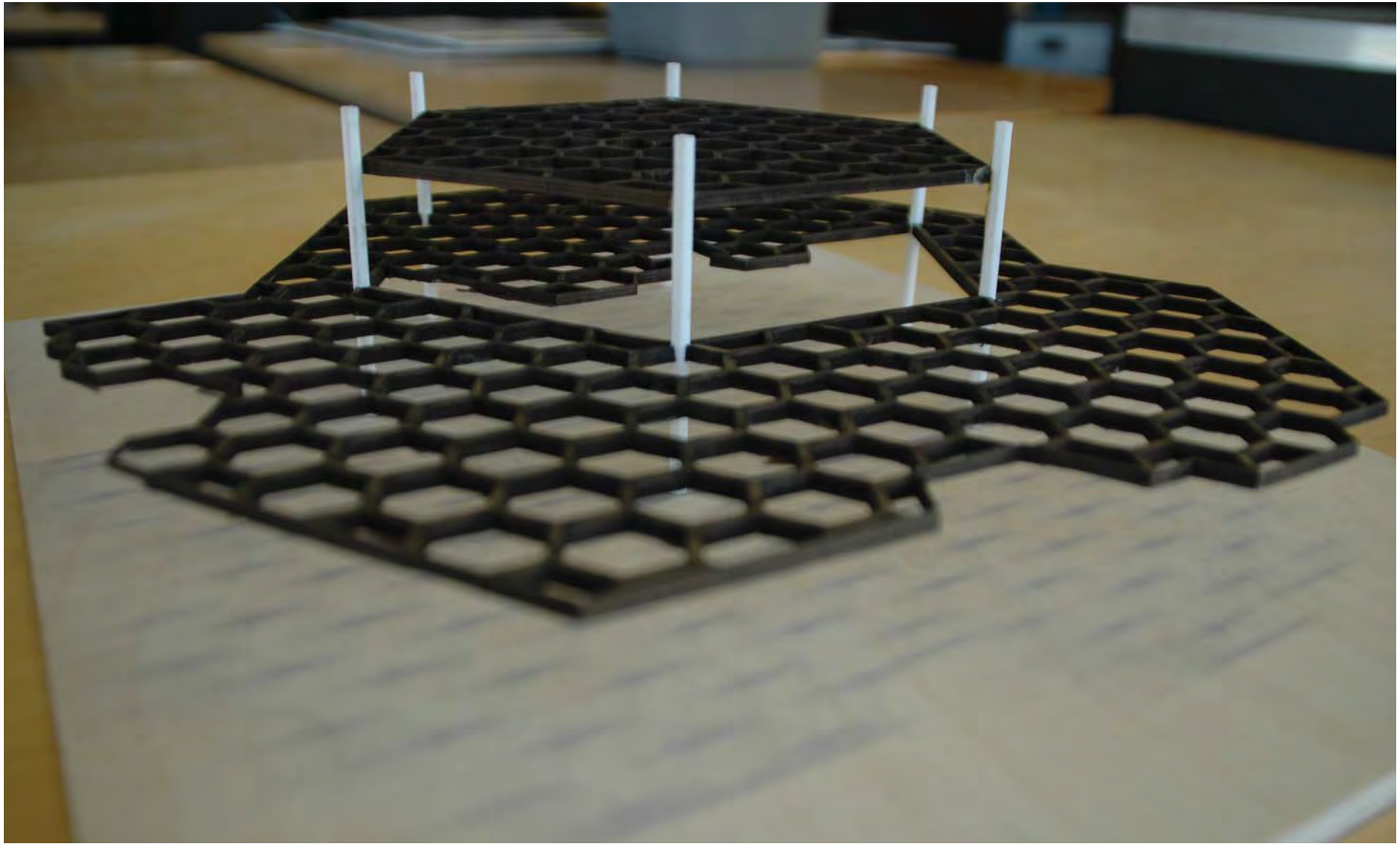
Mezzanine Perspective

Mezzanine Perspective 2

Perspective of Elementary Child Space

Final Model





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"Buildings, too, are children of Earth and Sun"
-Frank Lloyd Wright