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Building a Brighter Future Through Education: Student Housing for Single Parent Families

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by

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ABSTRACT

On the possibilities of a child the Center for Disease Control says, “Every Child should have the opportunity to reach their full potential”. (CDC) Children who grow up in low-income families are at risk of falling behind in education before they even enter kindergarten. Single parents that struggle to provide food and shelter often lack the time and the resources to provide the early education that their children need. A college education could provide these parents and their children with a better quality of life. University student housing could include built in childcare services, educational assistance and peer support, for single parents working toward their degree. The development of a child is as important as the education of the parent. The home should provide its inhabitants with safety and promote learning and growth.

A focus will be place on the shared common spaces. Emphasis will be given to the shared living rooms in order to promote an interaction between the individual families. These shared spaces would be a medium for children from the different families to play together along side spaces for their parents to study. The private family spaces can be minimized to sleeping quarters, a kitchen and a small living space, providing a place for intimate family interaction. The project will also include an in-house childcare center, for the children living in the facility. The childcare center

provides a safe learning environment for the children, while their parents are at school. Garden's and play spaces throughout the building should stimulate a child's imagination and encourage their curiosity.

Combining a safe learning and living environment, with access to nature will provide both a sense of security of home and school, and the freedom of exploration. "For healthy development, undistorted by fears and worries children need to feel valued and protected. They need both challenge and an ambience of security"(Day, 34). Investing in a child by showing them what they are capable of achieving with education is not a gamble. A child's potential is a thing that cannot be left to fall, unachieved. A healthy society benefits from the education of all.

Chapter One

Initial Project Intent

Introduction

Architects desire to solve social problems through building. When it comes to issues of low-income neighborhoods there is a disconnect between the physical world of design, with all its rules for improving community, and the actual social condition of the people who actually live there. Adding better street lights and parks do not fix the problems. A neighborhood could be made safer through better design reducing crime. Neighborhoods can also be rebuilt, removing the population and displacing them to other low-income neighborhoods. Nothing is solved through this approach. People are still poor and they still lack the educational resources to move forward.

On a micro level architecture can handle provide solutions by understanding the individual problems that make up poor neighborhoods. One problem that maintains the poor neighborhoods is poverty being passed from one generation to another. Architecture cannot solve this problem alone but it should be used as a conductor. If single mothers are more susceptible to living in poverty and single motherhoods is on the rise, then a new solution is needed. Architecture cannot solve the issue of single motherhood but it can become a container for a change in lifestyle. A new housing typology can be created for single mothers to join together in raising their children.

Essays of Richard Neutra

In Nature Near: Late Essays of Richard Neutra, Richard Neutra composed personal experiences from his own experiences as child in school. Describing his motivation for designing schools, Neutra relates to his own childhood experience in school. He recalls a teacher who arrange all the boys in the classroom by height, sitting the tallest to the back of the classroom and the others decreasing in height to front. The impression the children got from this was to measure each other by height, those who were taller and placed in the back were often times left over from the previous year. These students start off with an implied mark against them from the beginning.

Aside from the order of students Neutra continues to describe his frustration with his surroundings while at school which he describes as "generally unnatural, closed-in, a negative feeling of physical environment I grew up in". (Neutra, 55) These feelings of being trapped in his surrounds led to his desire to design more "luminous and stirring" spaces. As an architect he was frustrated by school boards cutting of maintenance budgets through limiting use of windows in building designs, and cementing play yards to avoid the cost of maintaining trees, grass and other outdoor landscapes. Limited visual connection to the outdoors, and the further compounding this with a lack of natural outdoor spaces were in his views detrimental to the students.

"Their receptivity to ideas and their capacity for inquiry, clear thinking and imaginative expression are conditioned by a host of sensorial factors within the school setting. These can have as much influence as the teacher and textbooks."(Neutra, 60)

Figure 1 and 2. Conceptual sketch: nature vs. playgrounds.

Neutra feels that spaces for children should connect to nature. His providing a large sliding door to a classroom gives an outdoor space that becomes part of the interior classroom. He also feels that the children will have a better relationship with the seasons, being better able to experience the coming of the new spring, and the transition back to school after summer vacation, will be more comfortable for the students. In his memory, the end of summer was punctuated by being “shut away” inside a stuffy classroom. He returns to his memories of negative experiences with the architecture of the classroom in order to produce better experiences for another generation.

In Survival through Design, he relates again to his own childhood memories and Personal relationship to architecture. He describes the way he remembered his own childhood home, from about the age of three. His experience of the old wooden floors of his parents apartment is very different that how his parents experienced the surface. He remembers sitting on the floor removing dirt from the joints between boards. As a child he feels the raised surface of the wood against the backs of his legs and test out the dirt through taste, deciding that it was “no good”. His relationship to the floor of the family apartment was very different from his parents, whose relationship was from much high

up.

In the family parlor of the home as a child he felt uneasy with the height of the ceiling and chose to place underneath the piano instead. “The low headroom under our piano provided me the coziest place I knew.” and was frightened at night by the dark space that was formed couch that sat catty-cornered to the wall, writing that he stills “loathes the waste of space behind furniture.” (Neutra, 27)

A child’s relationship to his environment goes behind the surfaces that an adult sees. A piano becomes a comfortable place to play beneath as the room it is in is overwhelming and unwelcoming. A room designing for a child should keep this in mind, provided smaller, comfortable spaces, with in larger group spaces. A larger room could provide the individual child a place to reside when playing alone, and slightly larger spaces for several children to inhabit together.

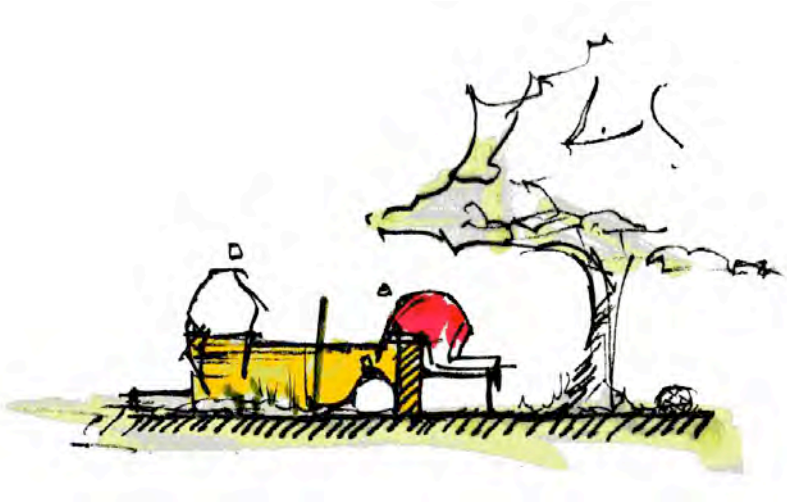


Figure 3. Conceptual sketch: children playing in a garden

The outdoors is an important aspect of designing an environment for children. “For children, gardens are mood places to do things in, not to sit immobile looking at views, as good behavior, budding sociability, respect and peacefulness are enhanced when children can play and experience, they need places that provide freedom, curiosity, interest, wonder, excitement and joy”(Day, 14). Giving children a place to expend energy outdoors has a great impact on a child’s behavior. Day proposes a diverse space, which can be divided into “rooms”, is preferable to bare fields with staged environments. This is because children are allowed to create their own world from their imagination. For example a plastic space shuttle to play in is always a space shuttle, but a cardboard box can be a space shuttle, it can also be a hundred other things. “The more diverse their environment- especially the outdoors- the greater the exploratory and creativity potential and the wider the play and social scenario range” (Day, 16).

As for the building itself developing a place for children to play that will stimulate the child's imagination. The building also needs to provide security and comfort. Day even suggest small children respond better to certain building types. Solid stone and Masonry buildings feel more secure to children than metal. He suggests that children prefer more solid buildings with hiding spaces inside. The building offers structure to the child's life. "For healthy development undistorted by fears and worries children need to feel valued and protected. They need both challenge and an ambience of security" (Day, 25). This security provides the child with a place to develop properly. Their growth should not be hindered by fears associated with their home and lack of stimulus.

Figure 4. Conceptual Sketch: Children experiencing a diverse terrain

Chapter Two

Single Parent Families

The Parent Child Relationship

The relationship between mother and child is very important to the child's future. Each person has specific needs to be met in order for a healthy relationship to exist. The child needs to be loved and feel a sense of security in their home, as much as they need to have a proper diet and an education to grow properly. The mother also needs security, a stable home and income to provide for their children. An education can be a better future for parent and child but nurturing the relationship between is an important part of their futures.

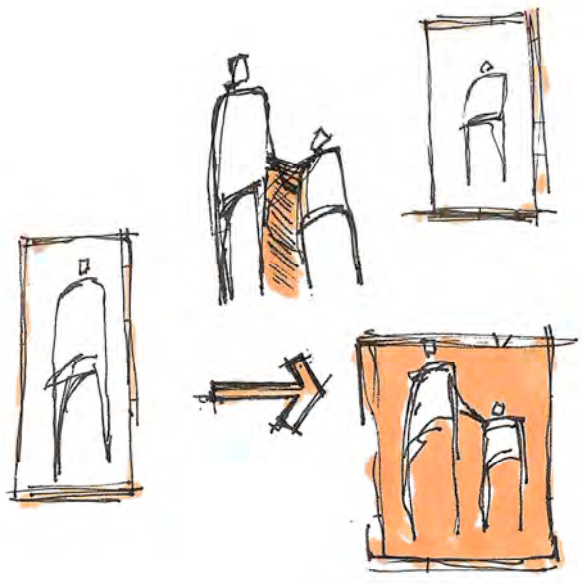


Figure 5. Conceptual Diagram: Building the family bond by developing.
The needs of the individuals must be met separately and also brought together.

The child will have needs that must be handled specifically as well as the mother's needs must be handled. Without developing the needs of both the mother and child the relationship will not flourish. A child should feel their mother is involved in their education that they understand and are proud of what they are achieving. Parenting classes can help aid the parent understanding their new role as a responsible party to their child's education. In turn the child will feel proud of their mother as she pursues her education.

Single Mothers and Poverty

Mothers who work tend to feel better about them while they are employed; this filters down to their children who feel better about their mother when she is employed. A problem arises in the low-skilled labor market, which more often than no consist of low wage jobs. These low skill jobs also carry non-standard hours, long commute and are vulnerable to layoffs when the economy takes a downward turn. Working mothers who are also single parents must often balance the inconsistent life style of these types of jobs with the needs of their children. They must find time to raise their children when not working and adequate care when they are working to meet their children's needs. Providing their children with adequate daycare may not be realistic to the income they earn. Even inadequate childcare is costly; therefore a single mother must work more hours to afford even the most limited daycare services. The study finds that single mothers in America work more hours than single mothers in any other nation. The fifteen other, wealthiest countries, they compare the U.S with often more adequate public childcare service and therefore a single parent is less burdened to meet such a cost.

This limitation in the U.S. leads to children living in a single parent home receiving inadequate early education, both at home as well as paid daycare service. These children then in tern fall behind other children before entering kindergarten. The cycle of poverty continues in this pattern. A child born in poverty, is unable to excel in school, falls behind, then becomes susceptible to dropping out before finishing high school, teenage pregnancy, and intern raising their child in poverty as a single parent themselves. An increase in quality and availability of educational resources for children living in poverty can be a tool for ending the cycle. “Regardless of financial situation all children should have rights to education; quality early education will prepare children for the time when they grade school”. (Poor Kids in a Rich Country, 133)

Child Development and Poverty

A study was conducted following groups of children identified as at risk, living in poverty. The program was designed so that different levels of exposure to educational services would be applied to the children in the program. The first intervention would occur between infancy and age five in a specialized preschool. The second intervention occurs when the child enters elementary school and includes involving the parent more directly with the child’s education process through age 8. Three levels of intervention occurred through out the study. One group, the control group, had no intervention; a second group was placed into a preschool as infants, the third group received intervention at the ages of 5 or 6 when they entered elementary school, and the last group was engaged in the program all the way through. The conclusion of the study showed a drastic difference in IQ range for children with some level of intervention and those who from

the control group. The children who had the most success were the ones who received both levels of intervention. The study also found that children who only received preschool intervention still did well in comparison to the children in the full program. The study while an isolated group shows that it takes early intervention into the lives of these children to place them in a new direction. (Children in Poverty, 202)

A study by the U.S. Department of Education found that children starting kindergarten from the wealthiest levels of society had cognitive abilities 60% higher than those from the poorest. This shows that the children from the lower levels of society are disadvantaged from the start of their lives. One problem with the public education of children in poverty is the wealth segregation in U.S. neighborhoods. Schools reflect the class of the neighborhoods they are apart of. The number of undereducated children living in their district burdens schools in low-income neighborhoods.

The article suggests that schools in these areas do not receive equally funding to schools in wealthier neighborhoods. The author also suggest that even if they received equal funding they it would still not be adequate provide the resources these children need. (Poverty and Schooling in the U.S, 51)

Co-Abode Housing Community

Co-Abode is an online community designed to match single mothers with other other single mothers to create a cohabitation relationship between two or more families. On their own single mothers must balance housing cost, other living expenses all while raising their children alone. With two or more mothers united together they are able to split many of the living expenses from rent or mortgages, to utilities food. The

cohabitation can provide for support and care for each other's children. One example of a household consisting of, Jessaca Sanchez, a 19 year old mother, and college student, with a toddler is living with, Sue Yowell, a woman in her 40's with two elementary aged children, Yowell, the dean of student affairs at the University, occasion is called onto campus late at night if there is an emergency and can leave her children in the care of her housemate instead of waking them and dragging them along as she has done in past.

An article in Time Magazine about participating in the Co-Abode project features several families from a variety of living situations living together. The process begins through an online chat site and progresses to many users meeting in person several candidates to find the right fit. Another example, Natalie Johnson 41 and Audry Ellis 38 met through they site and after a meeting to discus personal views on issues that were important to them such as, relationships with ex. religion, nutrition, parenting style and boyfriends. They both decided that it would be a good match for Johnson's 12 year old son and Ellis's daughters 6 and 8. The mother's set up some household rules and routines, such as setting boundaries for the children and alternating weeks for cooking and shopping.

After a year and a half together the mom's agree that life is going really well. The arrangement has taken some of the stress and burden of being a single mother off their shoulders. The children all get along as siblings and the mothers have become close friends. Johnson explains she no longer feels like a damsel in distress, waiting for any guy to come along and rescue her and provide with stability.

"Co Abode was founded on the principle that two single moms raising children together can achieve more than one struggling alone." (COAbode) The goal of the

program is simple, to provide a solution to a problem and to assist the participants in creating a secure and safe environment for their families. Together two women can work together for the mutual benefit of their family without feeling they need to sacrifice family for income, or income for family.

Chapter Three

Developing the Project

Expanded Project Description

Children who grow up in low-income families are at risk of falling behind in education before they even enter kindergarten. Single parents that struggle to earn wages that will provide adequate food and housing. The lack financial resources, hinders the parents ability to provide the early education that their children need to prepare for elementary school. A college education could lead to a career that will provide these parents and their children with a better quality of life. A University student-housing program could include built in childcare services, educational assistance and peer support, for single parents working toward their degree. The development of a child is as important as the education of the parent. The home should provide its inhabitants with safety and promote learning and growth. A focus will be place on the shared common spaces. Emphasis will be given to the shared living rooms in order to promote an interaction between the individual families. These shared spaces would be a medium for children from the different families to play together along side spaces for their parents to study. The private family spaces can be minimized to sleeping quarters, a kitchen and a small living space, providing a place for intimate family interaction. The project will also include an in house childcare center for the children living in the house. The childcare center provides a safe learning environment for the children, while their parents are at

school. Garden's and play spaces throughout the building should stimulate a child's imagination and encourage their curiosity.

The single parent struggles to maintain the balance between providing for their family's basic needs and spending quality time with their children. "A child in a single parent household is six times more likely to be poor than a child in a two parent household" Jack Levine president of the Florida Center for Florida Children was explaining the challenge placed on children from single-parent households from the start (Krueger, 2). Working to provide food and adequate housing for their families is compounded with the additional expense of childcare. In order to work the parent must place their children in someone else's care. The cost of quality childcare service can be beyond a, struggling single parents finances. An affordable cost and location often play a more influential role in selection of childcare than the potential educational and developmental opportunities. For the parent to afford better quality childcare, they would have to spend more hours working, which would mean even less time spent with their children. The single parent struggling to raise their children in poverty may have grown up the same way, trapped in a cycle of poverty. Without a drastic break form this cycle their young children, too are at risk of continuing along with this same cycle. An opportunity to break this cycle is to achieve a college education. For a single parent the opportunity to pursue a college education can be prevented by their responsibility toward raising their family. Even with some assistance such as, grants and loans to help with the cost of tuition, a single parent still faces the additional cost that come with caring for a family. For a single mother, the cost of pursuing a college education is compromised by the cost of raising a family. A safe home, adequate children care, food and clothing all

deplete the resources of a single mother, making tuition unrealistic..

The Center for Disease Control describes the importance of a child's development in the early years. They state, "The early years of a child's life are crucial for cognitive, social, and emotional development. They go on to explain that there is a cost to society when its children grow up with "compromised health and safety, and learning and developmental delays."(Center for Disease Control) Better care for the development of children growing up in poverty is an important part of ending the cycle. Allowing children to grow up with the lack of proper healthcare and with inadequate education can create a much larger burden on society for future generations. Failure for a child to develop properly during the crucial early years can be what sets a child behind in education before they even enter kindergarten. The daycare or sitter afforded by their parent may not be qualified to meet a child's early educational needs. Each stage of a child life requires different levels of engagement between the child and its caretaker. A parent who has the time to spend one on one reading to their children or playing age appropriate games with them are providing the stimulation their child needs to progress normally. A childcare program providing quality educational and emotional development programs are desirable alternatives to sitters or daycares that merely watch but do not educate the children. The cost of the better quality childcare is often out of the reach of the single parents and their children may continue to have less advantage than those whose parents can afford a daycare with perks. Without the resources of proper health care and interaction the child may lag behind other children, developing learning delays and may struggle, eventually fall behind and they may never be able to catch up. The purpose of the housing center is not only to give the parent an opportunity for an

education but an opportunity for their children to reach that potential. This can be accomplished through creating a safe environment for child to live and play, a place where their parents are provided the opportunity of time to spend with them, and childcare that will continue to stimulate and educate them while their parents are at school developing their own minds.

The creation of a student housing facility created specifically for single parent families could provide many of the services that would benefit both the parents and their children. Academic and emotional support for the parents would be available on site. Educational and life training class can assist in succeeding in their pursuit of their degree and career afterward. Parenting classes give them an education in caring for their children to ensure that they know how to meet their child's developmental needs. Aside from sponsored support, a community of their peers, other single parent, and students provides a built in support system. Living within a community of other single parents working towards an education and better life, creates a wealth of other people who understand what they are going through. Parents would be available to assist each other when they need an extra set of hands or a shoulder to lean on. For the children there would be a built in childcare center. The daycare would provide daytime as well as after school care while their parents are in school. The daycare should be a place created for children, and along with curriculum and faculty the building should also stimulate their developing minds and inspire their creativity, not just hold them for a time. Spaces throughout the facility should take into consideration that children residing are also important users of that space. The parents and children's needs through out the building build from private quarters, to the very public gathers spaces. The main interaction of both child and parents

will happen in the intermediate social spaces, the shared common rooms. To build the community, smaller "neighborhoods" of cluster housing units are joined through shared common spaces. The shared common spaces serve to promote extended families. In these spaces the children from multiple families will play together, and their parents be able to socialize together. By breaking the residents into smaller clusters more intimate interactions can exist between the different families, like in a dorm were several students will share commons spaces to promote socialization. The shared spaces lead off to the individual family units. The private quarters provide the individual family a personal space for sleeping, eating and spending time together.

A more comfortable life for the residences can be made, by creating an environment where the minds of the inhabitants are provided with a sense of security and safety. Feeling safe and secure allows for the both parents and children to be at ease. The spaces for the children will promote learning encourage and creativity. Children need to play as part of their development, and to have an opportunity to play in a safe environment is critical. Garden spaces throughout the facility will provide a place where children can play, outside, in nature, and remain in the safety of their home. A caged play yarded attached to the back of a building focuses on standard play equipment, a garden provides the child with the opportunity to invent their own games while visible to their parents. These same garden spaces can also serve as a space for sitting and relaxing, reading a book while taking in fresh smells provided by flowers. Architect David Adjaye uses gardens in a variety of sizes for different usages and also to bring natural light in side the Lost House (Adjaye, 63). The spaces for the adults need to create an atmosphere conducive to study. These spaces need to have a connection between so that the parents

can maintain a connection to their children as they play. These common spaces build a deeper community between the separate families. The children play together and the parents study together. The shared interaction create a sense of togetherness for the families, they are not alone in their journey.

Without the community around them an individual who faces great challenges may despair and feel alone, with support from those experiencing the same obstacles there is camaraderie. Building togetherness through spaces makes this community different from being another apartment building with free daycare.

Developing the relationship between the parent and their children is one of the most important issues of the project. When the parent reaches their goal and completes their degree, they and their children will begin a new live on their own. They must both be prepared for this new stage in their life so the family's success will continue beyond the primary goal. Meeting developmental needs for children are a crucial part in fighting against continuing a new generation of poverty. Rather than a child growing up and expecting a life of poverty as the norm, they will know that there is more and they have the ability to achieve what ever they want. Working to ensure that children do not fall developmentally will be the first step toward a better future. A child needs to feel secure, and safe in a stable environment. The child needs to trust that their parent will make the right choices and will be the provider of their safety and wellbeing. Developing this relationship includes fulfilling the initial needs the parent also. The parent also needs a sense of stability and safety so that their mind is at ease. They need to learn that they can depend on themselves to achieve these results. Providing tutoring and guidance will provide them with the help they need to complete their education, and life skills classes

and peer support are also necessary to building self-confidence and encouraging them to take the lead in their life. The single mother can begin o focus on the importance of their child's academic achievements, as well as their own. Living in a community of other single mothers pursuing the same goal, creates a peer support system. The end result of building this relationship is that the family will continue to move forward advancing from the life that they were born to live to a much more stable life that they deserve to live.

Figure 6. Conceptual sketch: A parent interacting with child

Chapter Four

Project Development

Program

The building is to be an on campus, family style dormitory for single mothers and their children. The family typology requires a different structure than a typical student dormitory. Also family style dormitories currently in use are not specific enough to single motherhood and do not offer the extent of amenities the program should provide to achieve the greatest potential for success. The primary objective of the building organization is to create a community for student parents and their children to live. A single facility will provide the single mother families a place to, live, play and study. Single mother families will live together to form a peer network of mothers pursuing education while raising their children. Layers of socialization and privacy will help encourage both, peer support and family privacy. The program includes housing for the families, a childcare center, and spaces for residence to gather and study. Also educational support for both parents and children, parenting classes and career planning will be provided for residences on site.

Housing

The living quarters will be organized in groups of four apartments organized around a shared living room. Twenty-four, two bedrooms apartment total will house families headed by single mothers, with up to four children age 2 to 11 years old. The apartment designed to meet minimum housing needs, a small kitchen, two bedrooms and a small living space, will provide enough space for the families to have privacy. The shared living rooms will supplement the small apartments and encourage interaction between the families. The living quarters must be safe and secure, and locate above the first floor and the main traffic.

Children's Spaces

Spaces for the children included in the daycare will accommodate three years of preschool aged children living in the house. A larger shared common space will connect the three main classrooms. Other spaces will accommodate administration, a kitchen and lunch spaces, and a technology lab. The center will also house after school care and tutoring for the elementary aged children. Also consideration must allow for a nap space for children, which need to be quiet and dark. Outdoor and play gardens will connect to each classroom. The play yards will be landscaped and shaded by built canopies and trees. Indoor play spaces will also be needed to accommodate rainy days. Also a children's library will be accessible throughout the day for children to read books.

Community Spaces

There is also a need to create spaces that all residents of the building can share. Study spaces and event spaces designed to accommodate different numbers of people. Other community spaces include a theater to be used for meetings, movie nights, or plays. Office and closed meeting spaces will provide rooms for parenting classes, counseling and tutoring, and a technology lab. Most of the building will be inaccessible to non-residents, a kitchen and dinning room and lobby spaces will be accessible to guest of the residents. The kitchen can serve for parties or multiple family gatherings.

Gardens

A series of gardens will link the spaces together. Spaces along the gardens will open up and connect the inside with the outside along a walkway. Different sized gardens will create different environment to play and study. The children's library will be a center of the gardens. The library will open up into the surrounding gardens, and story telling can happen outside and inside. The gardens provide children a source for adventure and the opportunity to expend their energy in fresh air. They have place to sit and interact with the natural world, away from TVs, video games, and fleurecant lighting.

Chapter 5

Site Selection

Considering Locations

Where this facility should be located first started with a decision of should it be on campus or off campus. The project is to be housing for students of the University of South Florida. The campus has a diverse range of students living both on and off campus. If placed off campus the residences would be provided with access to the surrounding community, stores, neighborhoods, etc. The downside to being off campus is student will have to commute on campus for classes and elementary aged children will have to be transported by bus of other vehicular means to school everyday. Living on campus classes, the library, student services and other school activities are accessible on foot or through the campus bus system. The elementary aged children will also have closer access to Pizzo Elementary, which is located on the southwest corner of campus. Another consideration is security of the neighborhoods around campus, versus living on campus. It is also important that there is space for children to play outside freely. Enough space so that play areas are not restricted to a small fenced in play yard.

Based on this consideration, an on campus option seems better suited for this project. Providing the parents and children convenient access to University facilities, and the elementary school was a primary concern. The University bus system along with the

HART bus line can provide students on campus as well as off campus access to grocery stores and the mall. The campus also provides access to the University police department, which provides a level of security while on campus.

Living on campus offers three potential sites for the facility. The first two are located with existing residence areas, one on the west side of campus near the medical facilities and apartment style dorms. The other is on the Northeast side near adjacent to the Greek village and near the majority of student housing. The third site option is located in the Southeastern corner of campus and is directly North of Pizzo Elementary School. Site option 1 is located outside of the campus center, but shares a connection to other dormitories. The downside to this location is not only is it distanced from the campus center, it also is on a side of campus, which is isolate from the surrounding community because of a pond and Bruce B Downs Blvd. Also there is a lake of sidewalks and bike path that lead on and off campus, which can be a danger. Site option 2 next to the Greek Village, although the location provides a connection to the majority of the on campus housing, the atmosphere provided by fraternities and dormitory lifestyles may not be appropriate for families with you children. And site option 3 is set outside of the major housing options, and also along the edge of campus. Although it is not within the campus center it offers convienant access to Pizzo Elementary, which is walking distance from the site. The site provides space for children to play along with a close relationship to intramural fields to the North and the East. Access to the on campus bus line as well as the Hart line can be accessed.

Site 3

Site 3 offers the best options for this project. The site offers a wood area of campus that can be groomed to provide its residences a connection to campus, the elementary school while not isolating the family from the surrounding community. A home can exist on this site without feeling too much like a campus institute, and connected at the same time. Giving the occupants their own place to live and raise their families away from the noise and commotion of a college campus is as important as the education itself.

Of the three site choices, site 3 offers the most promising location. The close relationship to the elementary school for the older children is a key factor. This relationship would allow for the kids to walk to and from school everyday, possibly escorted by a member of the onsite childcare center. The space available is also a benefit. Existing trees will provide shade for the buildings as well as to children playing outdoors. Having a lot of outdoor space for children to run and play is very important. A small fenced play yard is still very confining to children. Children should have a reasonable amount of space to run, explore and imagine as they play.

Vehicular access is provided by an existing drive at the North of the site. University students will have access to campus to the West by foot trail that connects from the housing to the bus stop.

The elementary children will have access connecting from the daycare to Pizzo Elementary in the south by foot. A bus access street runs East and West between the two sites. The children will have to cross at this point but not at another street to reach the school. The site has two existing ponds for retaining water, connected by a ditch. The

pond on the West holds water most of the year; the one on the East stays dry. The existing road moves south into the site-crossing ditch, and is bounded on both sides by dense vegetation. Many of the trees on site are mature oaks, which help with water retention and shading for buildings on site.

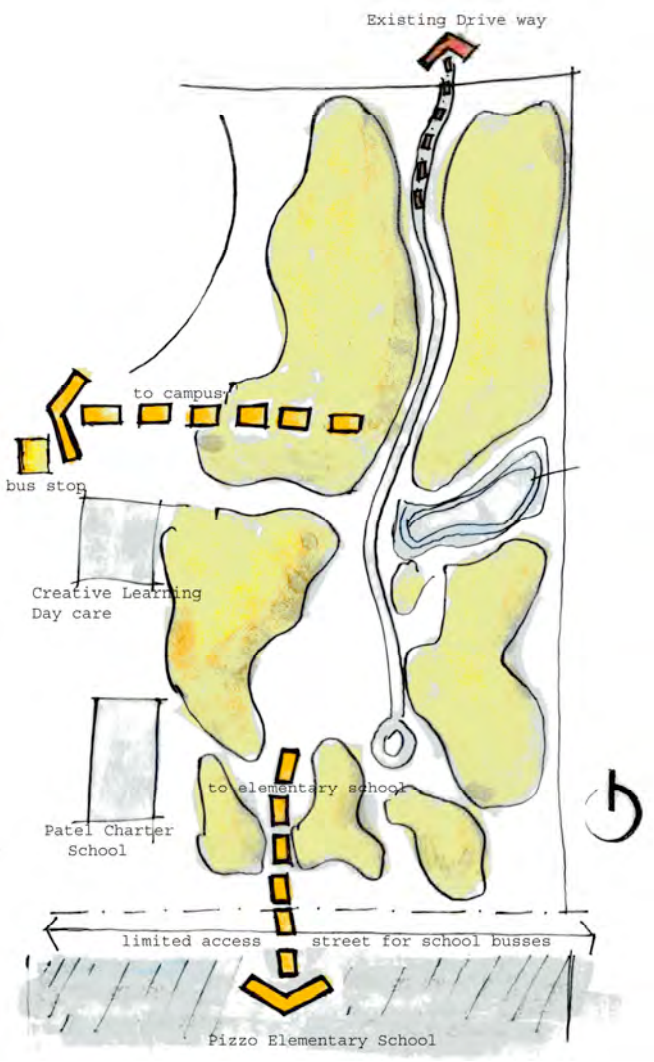


Figure 7. Site Diagram: showing relationship to educational destinations.

The Figure shows the site context. Include in the immediate context, the Creative Arts Preschool, Patel Charter School, Pizzo Elementary to the South and the USF baseball field to the North. Also the existing road into the site and retention pond

Chapter Six

Case Studies

Scanderborggade Daycare
Location: Copenhagen
Architect: Donte Mandrup

Figures 8-10. Building Images

The Scanderborggade Daycare center was designed to fit into a vacant lot that belongs to an existing neighborhood block. The five and a half story block forms a courtyard, which receives a limited amount of sunlight throughout the day. The design constraints for an institution building in this area required the building to only stand one story. The restriction also allows for an increase in sunlight to the courtyard throughout the day. The project includes three nurseries, common space, coatroom and indoor and outdoor play areas, along with a napping courtyard. With a required play area that is roughly the size of the entire site, the main play yard is placed on the roof and actually slopes into the interior of the building creating a connection from roof to ground through a hill of beanbag chairs and a sand box. The hill opens into the common room and is used

as seating for events such as plays. The design provides that each nursery has access to an outside play space, and the common room connects to the playground that is on the roof by means of the hill. The daycare's use of exterior space provides different environment within a limited space along with creative ways for bring in natural lighting. Children are given an opportunity to experience fresh air and sunlight through out the day even though they are in a densely built neighborhood, and in a very small space.

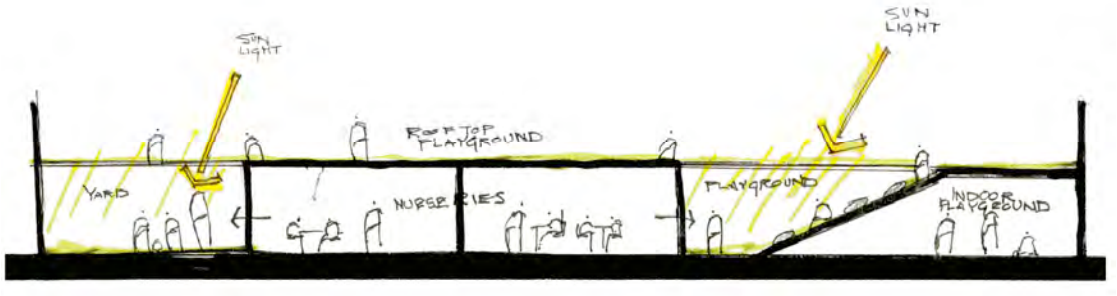


Figure 11. Analysis Sketch: Building section

A combination of integrated interior and exterior spaces are used to create a rich environment to stimulate the children's minds and senses. Gardens and covered play spaces can provide rich, stimulating environments outside of an air-conditioned classroom. Natural Lighting is carried into the building through skylights, to ensure that spaces located in the rear of the building have the same lighting benefits as the spaces along the street. Soft surfaces are created through rubber play floors, beanbag seats, and the curtains that line the indoor swing forest. A napping courtyard in located in the North corner of the building, which is the farthest from the street noise, and also noise produced by children in the other classrooms and play spaces.

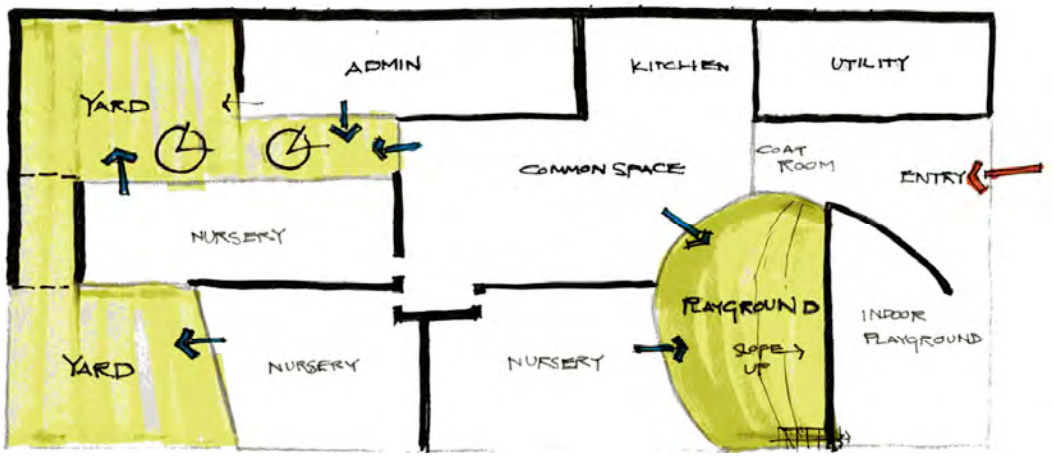


Figure 12. Analysis Sketch: program layout outdoor spaces represented as green.

The projects influence is the aspects of integrated spaces the architect applies. Natural lighting through courtyards and skylights helps to reduce the need for artificial lighting in side the classrooms. These spaces could be used further to create indoor, outdoor learning spaces to expand the environment the children occupy. Story time, for example can take place outside in a covered space in a garden, and snack time can happen under a shade tree. This gives children a break from the confines of a building, and gives them an opportunity experience nature.

Maryland Daycare
Location: London, England
Architect: Fluid architects

Figure 13-15. Building images

The Maryland Daycare Center was built on a limited site, and a limited budget the center is also shared with an adjacent school for music classes. The building is designed with two classrooms and one small paved yard for the younger children and a larger paved yard for the older children, and support spaces. The architects use translucent corrugated glass-fiber reinforced plastic (GRP) as the exterior skin for the school. The jelly orange and green colors give the small building a sense of function and personality. The material makes a curve around the play yard side of the building, breaking from the traditional panel use of the material. The ribbed texture of the plastic surface attracts small children to run their hands along its surfaces as they make their way inside. Some of the building windows are set low to a child's eye level to peak their interest in looking in and out.

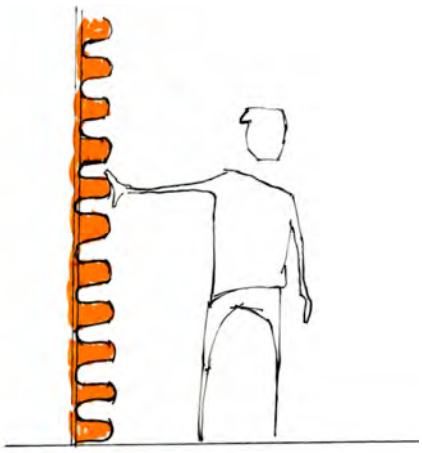


Figure 16. Analysis Sketch: A child's interaction with surfaces.

A child experiences their environment through all of their senses. A child's instinct is to touch a wall, run their hand along its surface, so design should not only encourage this but to also inform as well. A white wall and a child's dirty hands do not make for a good relationship. Designing with surfaces and materials that welcome this interaction shows a consideration for the child's methods of experiencing their environment. The exterior of the school offers no natural vegetation and a cantilevered covered play area provides the only shaded space in the yard. Natural vegetation and gardens could add to experience of outdoor play for the children of the school, and provide softer surfaces for playing and relaxing. A connection to the outside from the classrooms within can be enhanced with trees and other plants can help encourage, birds and other small animals to share the play yards and gardens. In an environment like London more sun may be better, in Florida more shade would be a necessity nearly year round for children to play outside.

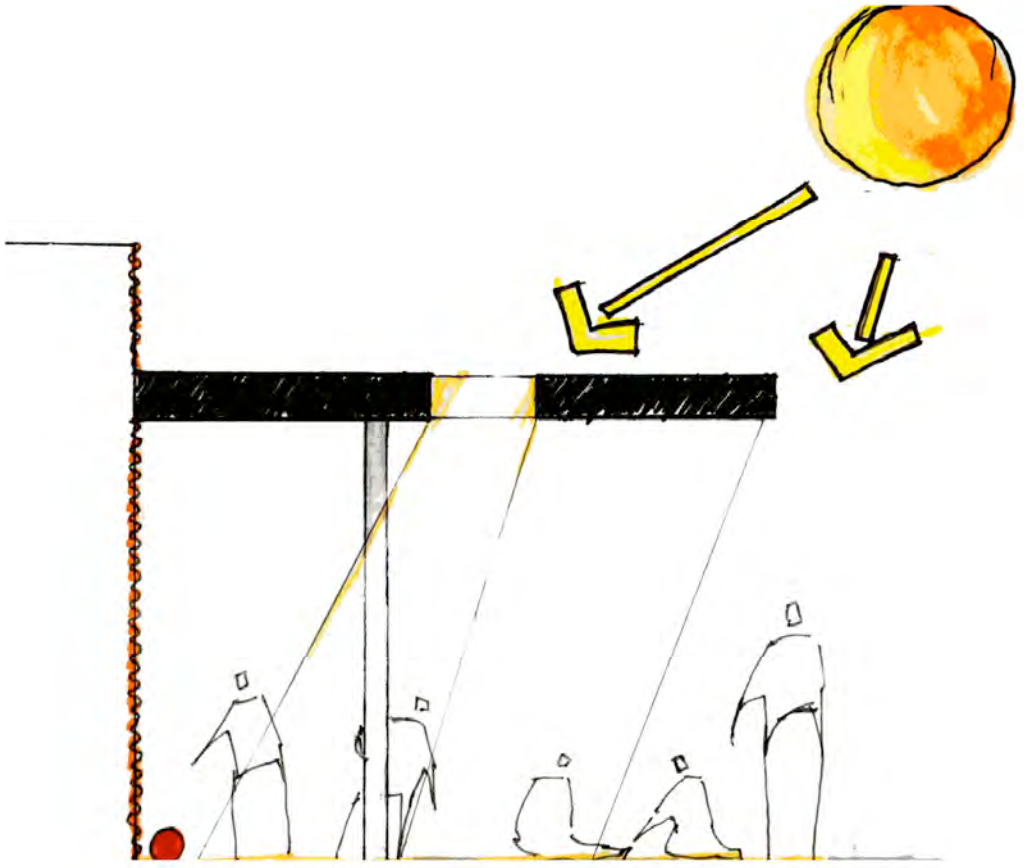


Figure 17. Analysis Sketch: Sun shaded play area.

Providing a shaded space outside for children to play can manage the heat during the summer months. Creating an outside environment also goes beyond the built shade. Leaving trees in tack on site is an important part of the project. Sites like the Maryland daycare lack natural shade, in London the heat created on the paved play yard may be a good feature, but in Florida natural vegetation is needed to reduce heat.

Reverse Destiny Lofts
Location: Tokyo, Japan
Architect: Shusaku Arakawa

Figure 18-20. Building images

Inspire by Helen Keller's story designer, architect Shusaku Arakawa sets out to build a home that through experience would continue to stimulate the occupants' minds. This experience in their theory would have the ability to extend ones life and also the quality of that life. Helen Keller experienced the world through the sense of touch, feeling her way through the word, the Reverse Destiny Lofts teaches the occupant through the same sense. From the grainy uneven floor, to the inconstant locations of light switches, and the patio door, which must be crawled through, a constant awareness is necessary to navigate ones own home. The architect intends to crate an environment meant o aggravate and challenge the occupants on daily basis, intending to stimulate and educate.

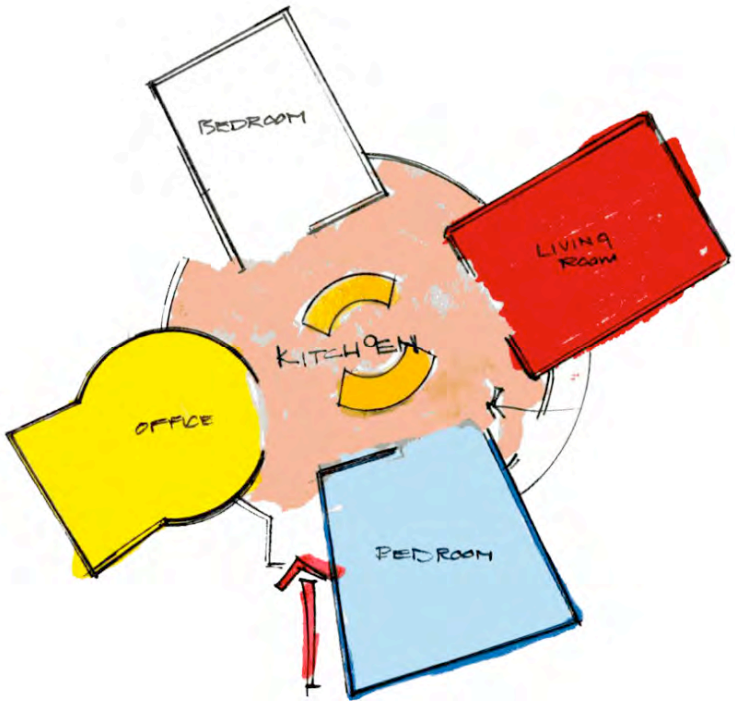


Figure 21. Analysis Sketch: Floor plan of base unit.

As a living unit the design is more than a little beyond the norm. The lofts are created to challenge occupants along with social norms. They have been built as an experiment based on a challenge to the way people live and interact with their home. Critics have compared the design of the lofts to a fast food playground. The design as a functioning home may be a little extreme, but it is hard to ignore the images of children interacting with this type of architecture. The home appears to have been built for them. The image of a boy climbing the walls of the yellow, sphere office expresses a child's desire to interact with a space differently than an adult. A child will see a slanted wall, an uneven floor, or a tiny door as elements to explore, intrigued by the possibilities the experience offers. A child's imagination will provoke exploring whatever a wall offers

them to explore. Simple white walls, tiled floors, and a drop down ceiling offer little to stimulate a child's mind. Therefore and effort should be made to give them more when designing a child's space.

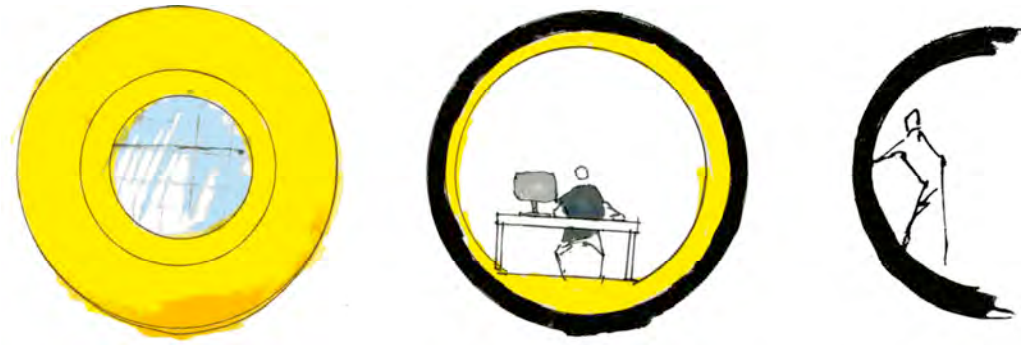


Figure 22 Analysis Sketch: diagram of spherical office

A daycare is an opportunity to explore ways to create a child's environment. Ate the spaces designed to do more than contain a class, or do the create spaces and experiences with in those spaces. Also how will the children circulate from their homes to the daycare, does the path between create an experience also. An adult may walk from point A to point B, but a child will arrive there after balancing along a low wall, chasing a lizard into a bush, and running their hands along the wall surface as they pass down a hall. Adding to the journey for the child can be as influential as the destination itself.

Simmons Hall MIT
Location: Cambridge, MA
Architect: Steven Holl

Figure 23-25. Building images

Simmon's Hall is an example of dormitory using natural lighting to create rich interior spaces. A sponge was the inspiration for the building design. Holl set out to create a building that would have porosity to bring light into the building. The building is set on a grid of 2'X 2' windows. The bedrooms are each give nine, 2'X 2', which are operable. In the summer shade is provide by an 18" depth per window. The frames of the windows are painted different colors according to the stress placed on the structural system. The color expresses a structural component of the building, but it also creates a different light quality for each room. The light qualities both in the rooms and also through out the structure create a fresher feel to a small living space. Occupants also have the ability to open all of the windows in their room to let in fresh air when the weather is nice.

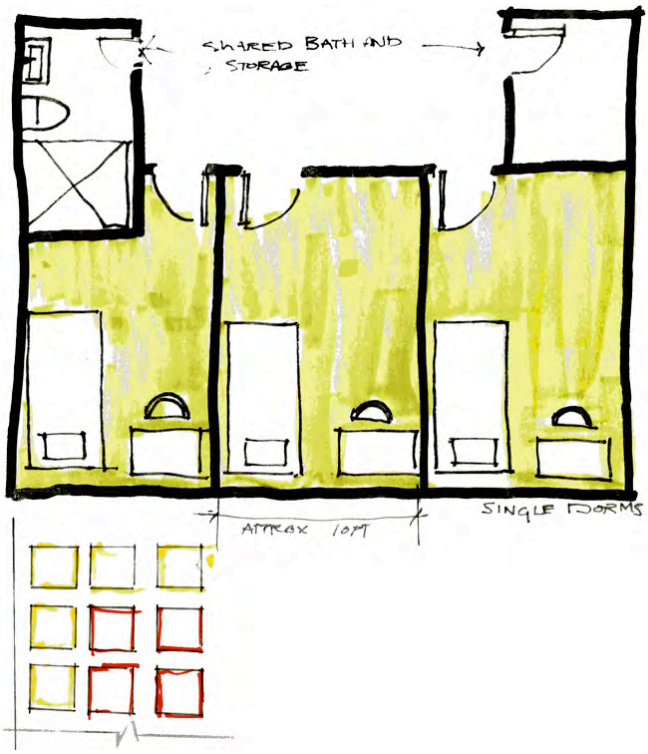


Figure 26. Analysis Sketch: Typical bedroom layout

Through out the building, sculptural, fluid structures create ventilation and bring light into the interior spaces. These sculpted spaces provide for unique study and gathering rooms designed to increase student-to-student interaction between the levels of the building. This provides a connection vertically for students living on different floors. The original designed called for many more, and much large spaces, but concerns that in a fire they would act as giant chimneys, played a role in reducing such elements. Even scaled back, the spaces still serve the purpose of studying or readying in a naturally lit space.

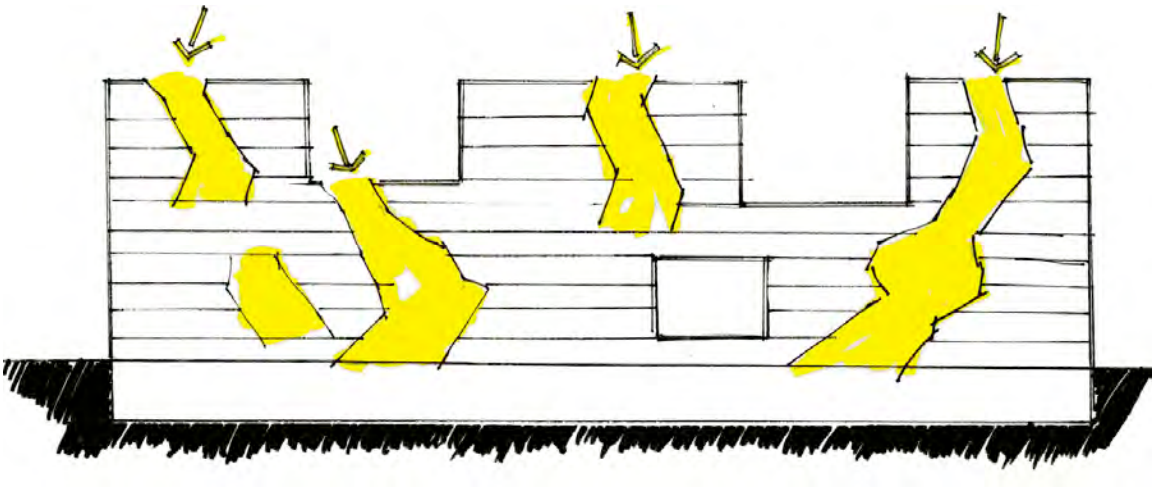


Figure 27. Analysis Sketch: Section cut expressing light penetration

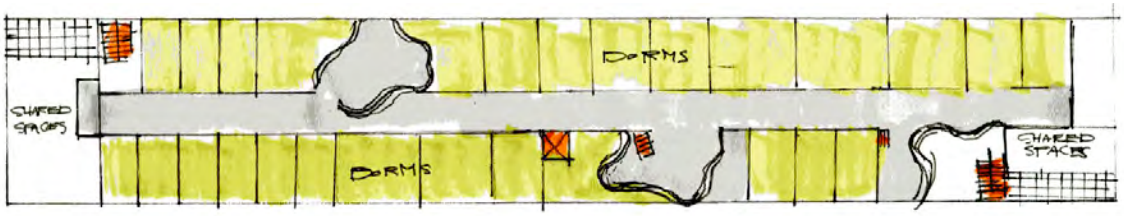


Figure 28. Analysis Sketch: Typical floor plan

The scale of the building is significantly larger that the scale I am proposing, but the ideas of creating a community with in a dorm are applicable. Looking at the function of a dorm, from the size of the bedrooms, to the type of communal spaces offered, a connection can be made. The dorm offers up to 350 beds in rooms that range from a 10’ wide single occupant room to a 20’ wide double unit. A typical dorm accommodates a bed, a desk and a small dresser and closet. Small living space is supplemented by the shared spaces within the buildings. Some of the amenities include a 125-seat theater, and a night café on one of the lower roof levels. Also the house dinning hall is placed on the ground floor located at the main entrance of the building, a street café style outdoor

dinning space is designed to encourage interact and use from other students on campus.

By interpreting the program for a smaller scale, some of the features can be used for my proposed student-housing center. A small movie viewing room and community dinning and kitchen space would provide for interaction between residences.
The theater can also accommodate children's plays, community meetings and other performances, as well as movie nights to be enjoyed by residents and their children. The dinning and kitchen can also provide a space for students to share meals with other families, celebrate birthdays and also to entertain family and friends from outside the house.

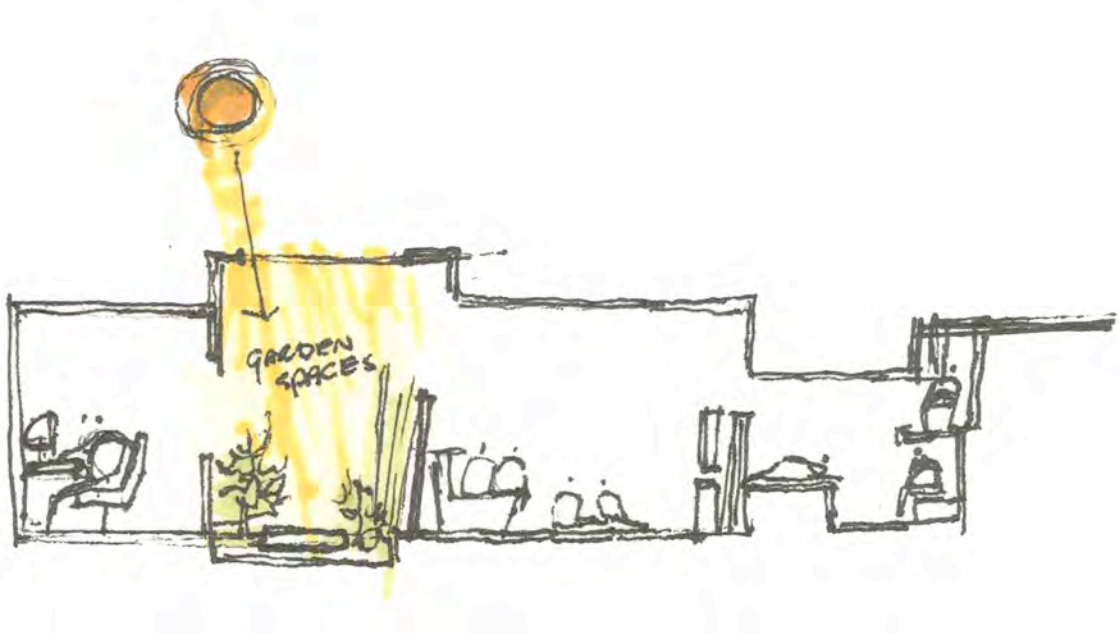


Figure 29. Concept sketch: Cross section of interior spaces

Chapter Seven

Design Process

Preliminary Design

The initial design process is to organize the program on the site in such a way to build a connection between the housing to Pizzo Elementary school and the University. The site is heavily wooded and offers many mature oaks. Maintain existing trees will provide shade for playfields, and the building. The program is organized. Activities for the whole community take place nearest the main entrance of the building. The areas intended for heavy activities take place where the major traffic entering the building occurs. Moving to more private spaces the living quarters will be located above the ground floor. Placing the housing off the ground level will build the level of privacy for the residents. Program elements for children, the daycare and the library, will be housed in the southern region of the site, closest to the other daycares and Pizzo Elementary school. This more interior location will provide more security and playfields as well as offering more space for playfields.

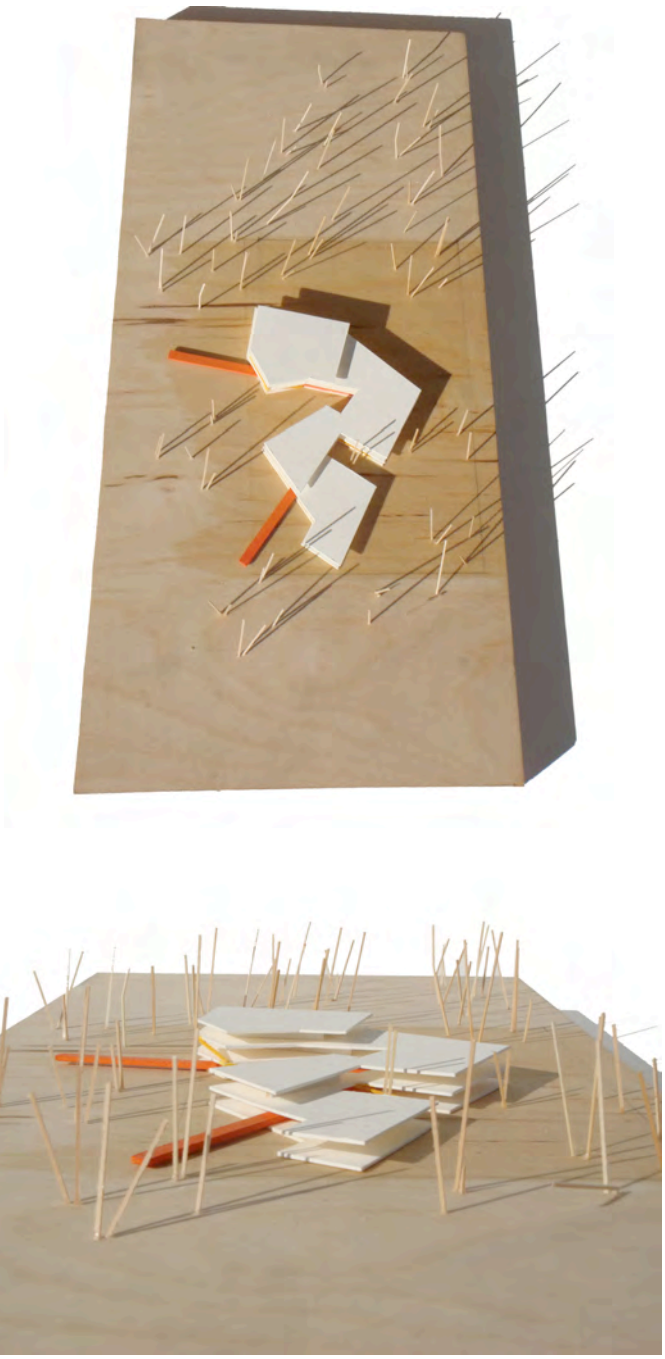
Working along an axis created by connecting the campus and Pizzo elementary with the site interlocking spaces of the individual program elements came together around the gardens. The axis acts as an organizing force of the program. The axis becomes a circulation pathway through the building connecting together the gardens and the interior spaces. The walkways will be the uniting element that moves from one space to another as well as connects to the inside to the outside.

Concept Modeling

Early design models begin to explore the relationship of the offsite connection to the building. An evolution is shown in the models photographed in figure 28 through figure 32 the initial design tries to understand the spaces that are created by the axis connecting the passages on and off the site. Initial designs express the program spaces as separate structures linked together by a circulation structure. Evolution of the idea creates a continuous building of these spaces while maintaining an expressed circulation system. This occurred as an effort to secure the program into one building which was preferred over a compound of separate structure.

The building program is laid out in an effort to maintain the existing trees on the site. Working around as many trees as possible. Conforming the building to work around these trees provides the opportunity to create gardens in between built spaces. This strategy is to bring nature into the interior spaces and connect further to nature.

Figure 30. Concept Model: showing spaces organized around a circulation system connecting with the elementary school to the south.



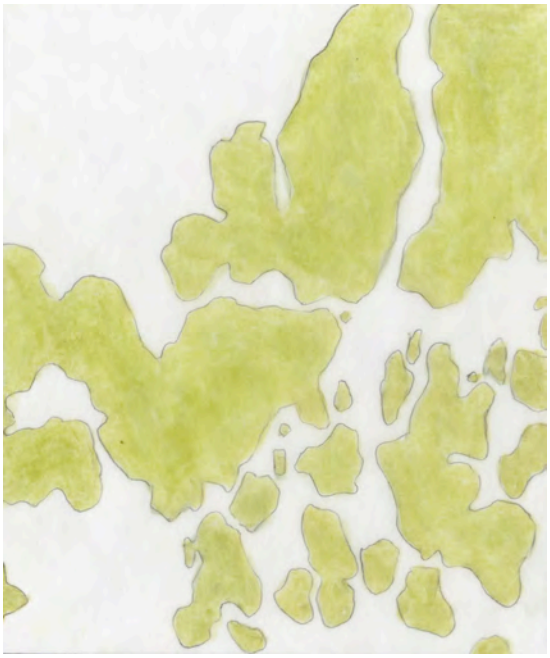
Figures 31 and 32. Concept Model: Circulation expressed in orange.

Chapter Eight

Project Conclusion

Final Design Concept

Living with nature is a key design influence. Building in a heavily wooded site lends itself to maintaining that environment. The existing landscape is to rich of a quality to be overlooked, and the initial strategy to work around, as many trees as possible, could be taken further. The trees provide places to play, shaded gardens, and shading to the building itself. Taking the earlier strategy further by working with landscape as is I created a series of void/ density drawings, as shown in figures 31through 33, of the trees on the site and the spaces in between. The trees, represented in green, become a solid system to build between, around and connect with. The void, represented in orange, provides large spaces to accommodate the major programmatic functions. The narrower spaces create a circulation that not only links the program spaces but also encloses the gardens of trees. The outside world not only surrounds the building but is also infused into the interior by the clusters of trees the building has become structured around. The trees are the greatest resources provided by the site and therefore become a major influence.



Figures 33 and 34. Concept sketch: tree outline on the site figure the void spaces without trees on the site

Conforming to Nature

The void spaces provide by the trees existing on the site created an exciting opportunity for organizing space. The fluidity of the circulation becomes grounded by the larger, heavier spaces. The spaces that accommodate the major program spaces the housing, community spaces, daycare, and administration take on the role of anchors. Construction for these spaces would be of concrete, giving the feel of a solid secure place. The circulation is intended to be a lightly constructed linking element, and is constructed of a light steel structure enclosed in a series of glass panels mixed with different levels of transparent all the way to a solid color panel. This allows light to access interior spaces and connected the occupant to the gardens below as the move through spaces.

Figure 35. Diagram: Building area as pulled from the void diagram.

Figure 36 and 37. Draft Model: expressing vertical circulation in orange

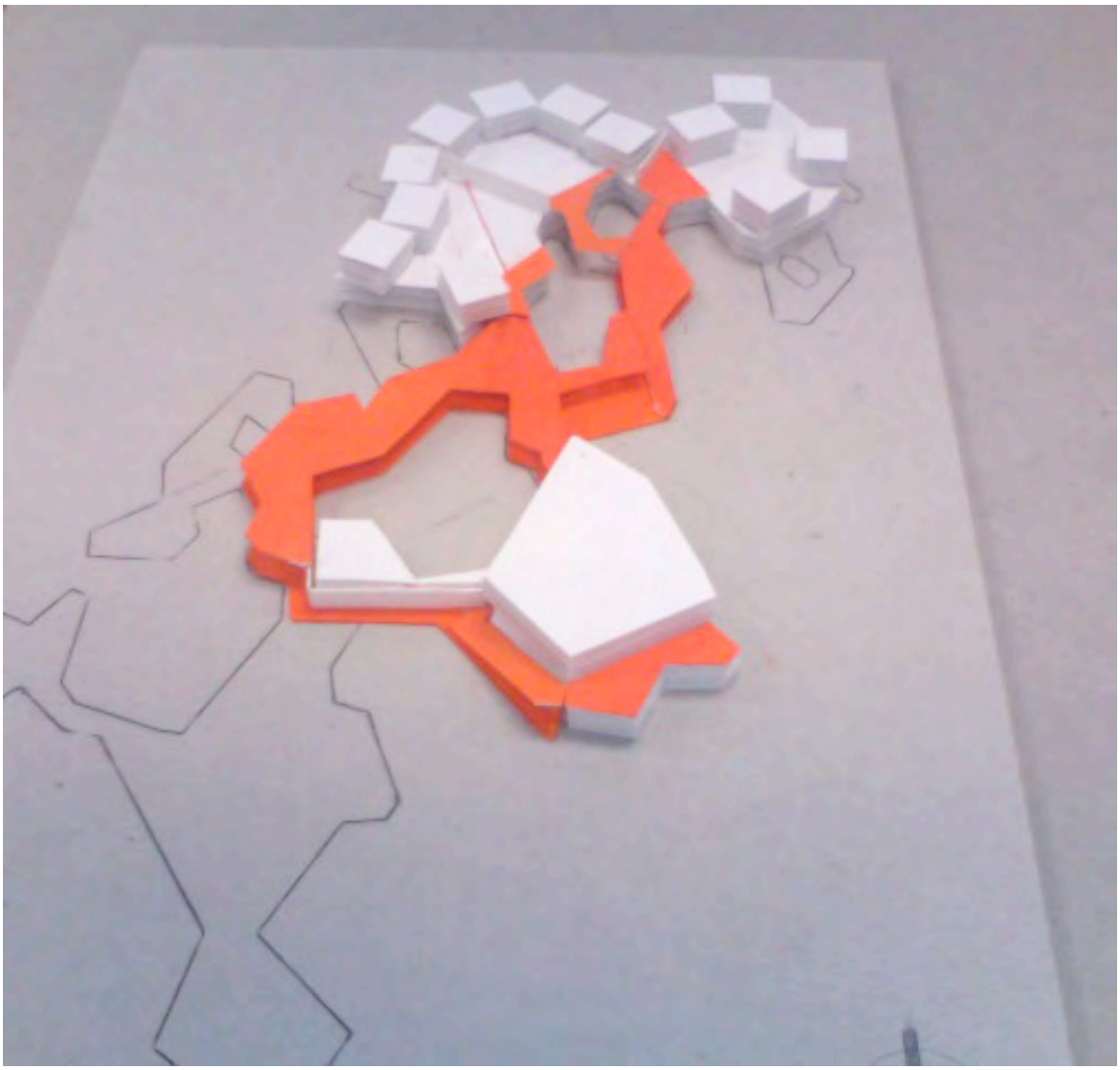


Figure 38. Draft model: circulation of the building represented in orange and the occupied, program spaces in white.

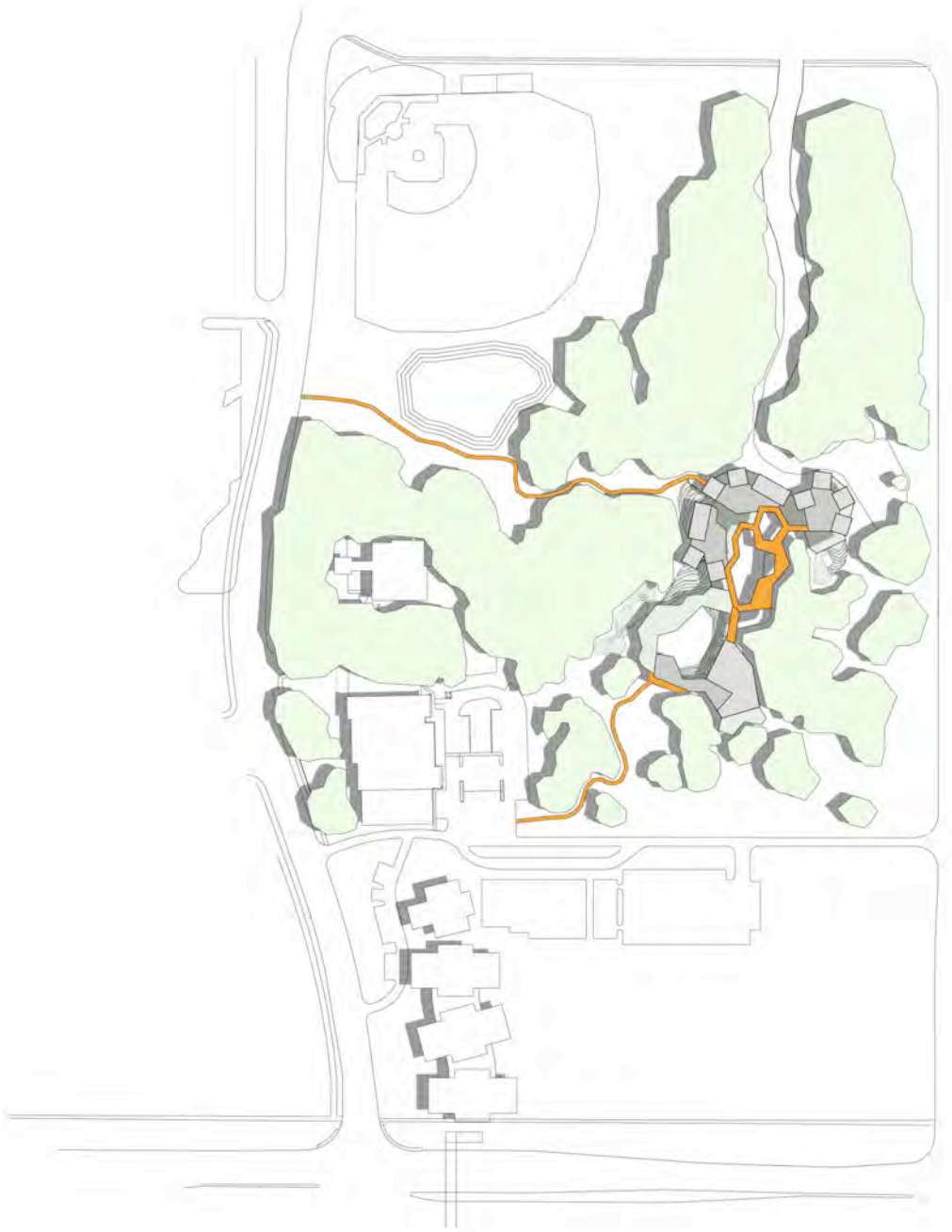


Figure 39. Site plan

Figure 40. Site model: Model shows surrounding context.

Figure 41. Site Model: view north across the site

The First Floor

The first floor consists of the public elements of the program. A large living and play spaces connects with a large kitchen and dinning room. These spaces provide for the entire community a large enough space to hold larger events, for example holiday or birthday parties, monthly-shared meals or large community meetings. The spaces are also the only spaces open to visitors of the residents. The living quarters are of limits to no residents to ensure the security of all who live in the community, therefore a space was needed where family and friends of the students can come and spend time together.

Study spaces are distributed throughout the first floor as well. The interior gardens the spaces are centered around provided a connection to the outside and space to play in. Also connecting to the interior gardens are the children's library and the daycare. The gardens along the first floor are to create a connection between the inside and out with large sliding doors opening up the space. The tree shaded garden spaces invite children to play and their parents a place to study in nature. Whether inside or out, the natural lighting created by these connection are much more inspiring than artificially lit study rooms in the university library.

Figure 42. Floor Plan: First Floor

The Second and Third Floors

The second and thirds floors mainly accommodate the resident housing. There is also a theater room located above the daycare, which is accessible from the residential levels. The theater connects to the daycare for use for putting on plays or gathering the children together for a show. The room is also set up for use as a home theater for planned movie nights for the community.

The second floor roof surfaces offer an opportunity for garden spaces. The rooftop serves the apartments as a yard accessible at the living level where children can play. The gardens create a connection to the interior gardens and the outside yard through sloping grass surfaces. The slopes will be climbable and steps will also be provided for more structure access up hill. The slope in to the garden surrounded by the daycare and library can used as an outdoor teacher theater as well as some place to climb and play.

The main components of the second and third floors are the apartment units. The units are organized in clusters of four units sharing a large living room space. Each cluster connects to the circulation system and the residents feed into their separate unit. Each shared living space also connects to the roof top gardens; on the third floor this is a visual connection. This creates a boundary between the cluster and at the same time creates a medium for uniting the different clusters.

Natural lighting is brought into the living spaces by the circulation structure. A steel and glass structure light is filtered, diffused in some spaces through shading systems. The interior views from above of the gardens below create a visual connect from one floor to another.

Figure 43. Floor Plan: Second Floor Plan

Figure 44. Floor Plan: Third Floor Plan

The Family Home

The Individual family apartment is designed to meet the need for the family to have an intimate space. Each unit is 480 square feet, minimized to encourage use of community spaces, while still providing a home for the family. The layout is organized to maximize the limited space to provide sleeping quarters for the parent and potentially up to four children. The living space includes a small kitchen living and dinning area. Because of the limited square footage the furniture is designed to be flexible. The dinning table folds up into the wall to create more space in the kitchen, but folds down to provide an eating surface or to extend the kitchen prep surface. The beds in the children's room are four bunk beds that also fold into the wall. A desk also folds out of the bottom beds providing a study space. The beds provide flexibility to accommodate the different families. The children have the opportunity to personalize their bedroom depending on the usage of the beds. Being able to hide away the lower beds also give a floor surface for the children to play. The small scale of the apartment is supplemented by the shared community spaces. A panel wall system can open each apartment to the living room they share with three other families. When closed the family has privacy and when open, the living space is expanded.

Figure 45. Unit Plan: apartment lay out expressing configurations of furniture

Figure 46. Interior Rendering: view looking into kitchen of an apartment

Flexible Space

Minimizing the square footage of the apartments required creative solutions for accommodating the occupants. The space is limited and creating furniture to be flexible can make the most of that space. The folding children's beds are a solution to the diversity of children, which may occupy the space. One family may consist of two children, another four and another may only have one child. Beds that can fold away into the wall allow unused beds to be hidden away. This way if a there are only two children in the room there aren't two empty beds taking up space. A desk folded into the bottom bunks also provides a study space for older children. The bottom bed can be fold into the wall and the desk easily folded out to provide a workspace and then folded away again to allow for play space the floor for younger children. The kitchen table provides the same level of flexibility. The main living space is to small of a space to accommodate a dinning table without felling smaller, but a table can be folded down from the wall when needed and folded up when more floor space is needed.

Figure 47. Interior Rendering: view into children's bedroom

Figure 48. Detail: The children's bunk bed system and different configuration

The Children's Library

The children's library is an important feature in this project. Linking the living areas and the daycare, the library will be a place children can go while in school, as well as in their free time with their parents and friends. The library is physically accessible through out the day and evening for children to read and borrow books. One side of the library opens to one of the two central gardens, across which children can travel to the daycare. The other side of the daycare links to a garden space with an out door story time space, shaded by one of the existing oak trees.

The children's library is an import piece of the program because it is set to promote reading and learning in an open fun space. Childhood literacy should be encourage and by creating a space that is lively and inviting parents and children can enjoy spend time together with books. Elements of the library include book stacks that can be tunneled through, a computer lab and a story room.

Figure 49. Interior Rendering: the children's library

Figures 50 and 51. Interior renderings: children's library

Figure 52. Exterior Rendering: view of the children's library from an interior garden

Gardens

Creating a connection to nature with the interior space of a building was an important goal of the project. With the living units all-existing up the ground level of the project, it is important to developing a strategy to link the homes with the outside. A series of roof top gardens cascade down into the interior gardens and also to the outside gardens. Residents can walk their children to day care in the morning by way of the roof top garden, which slopes down into the interior garden connected to the daycare. This provides a much more significant journey to school everyday than being limited to arriving via the corridors.

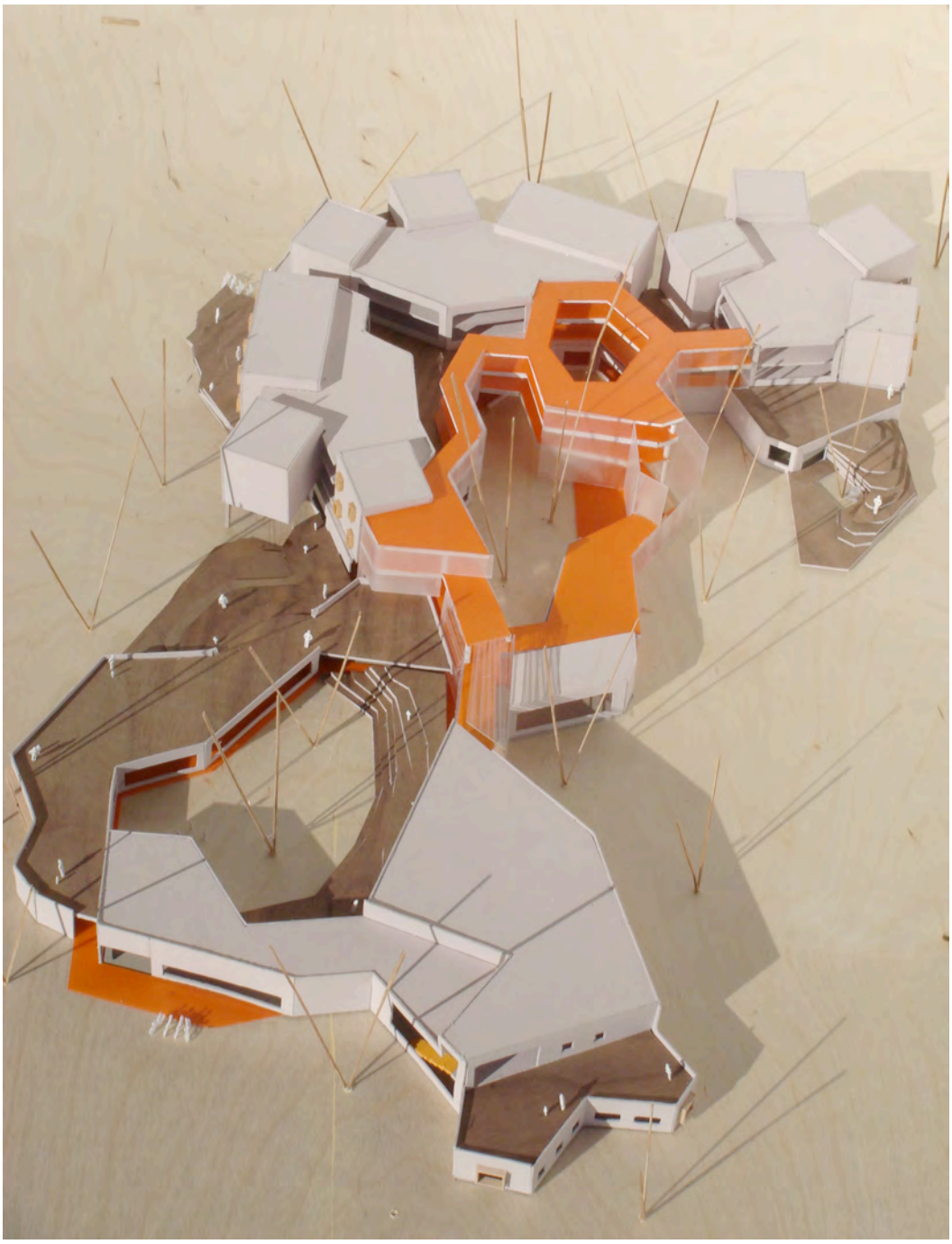


Figure 53. Model: looking north across the model

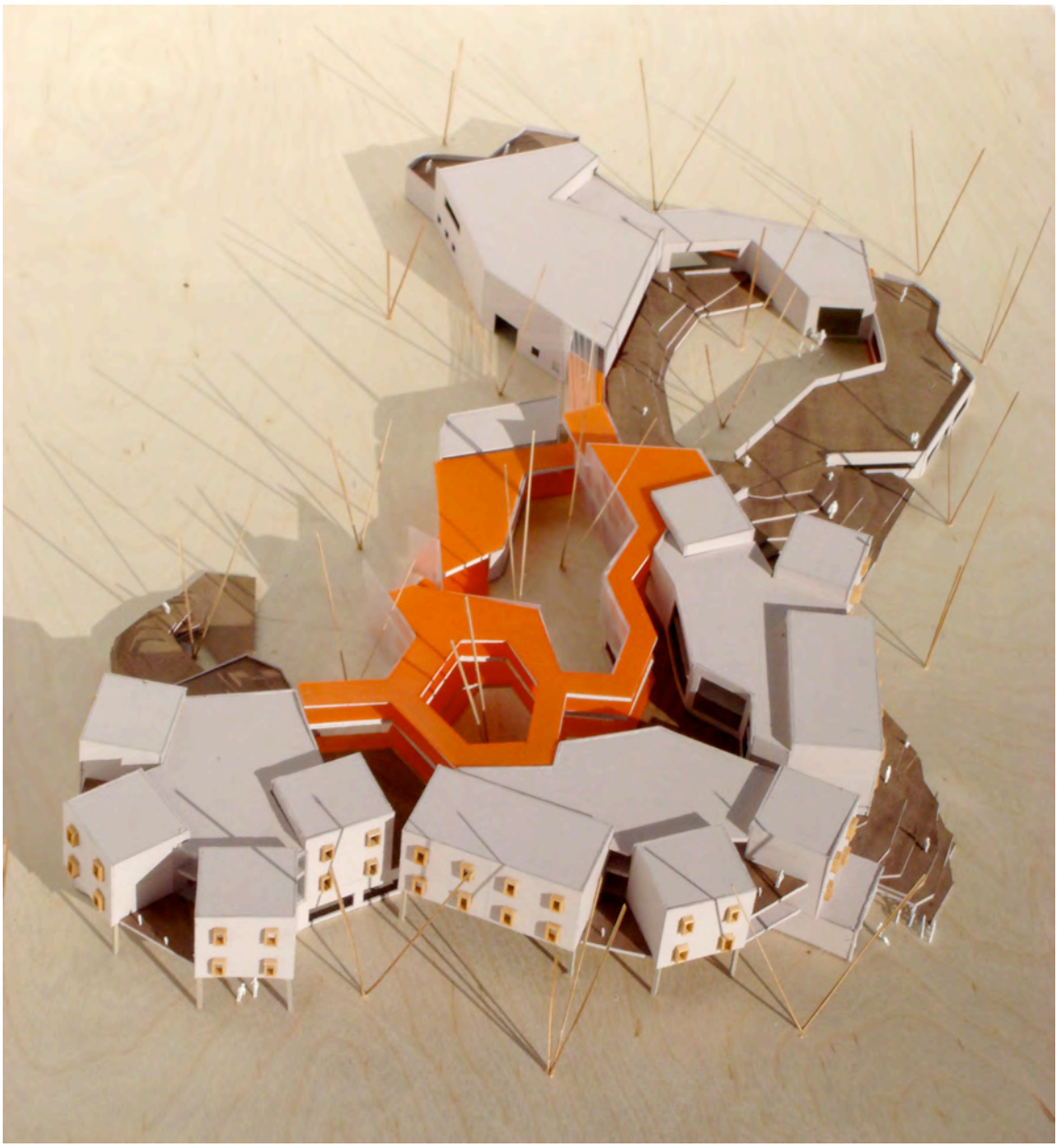


Figure 54. Model: Looking South across the model

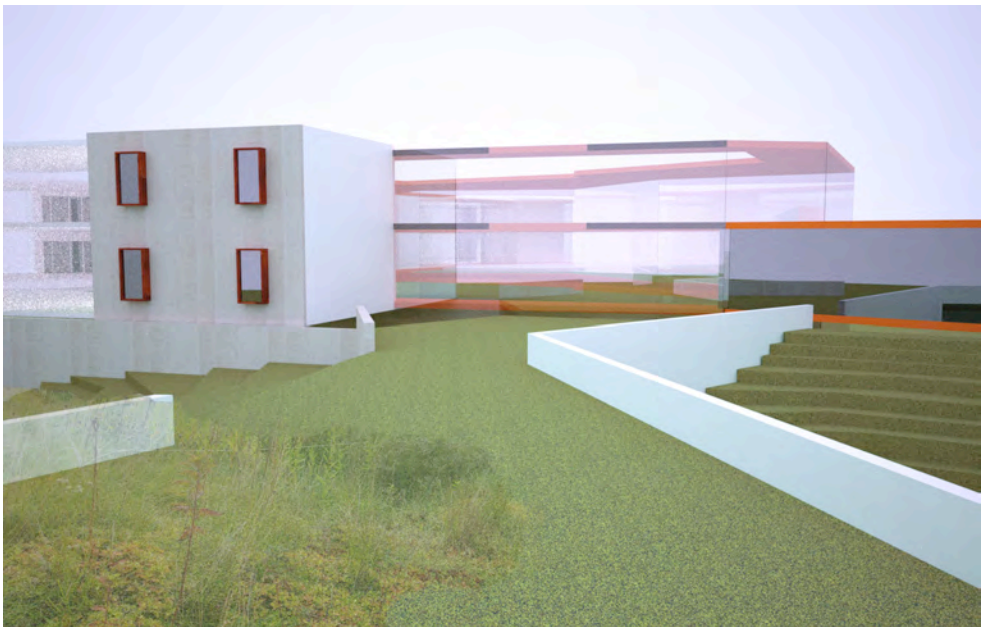


Figure 55. Exterior Rendering: view looking north from a roof top garden.

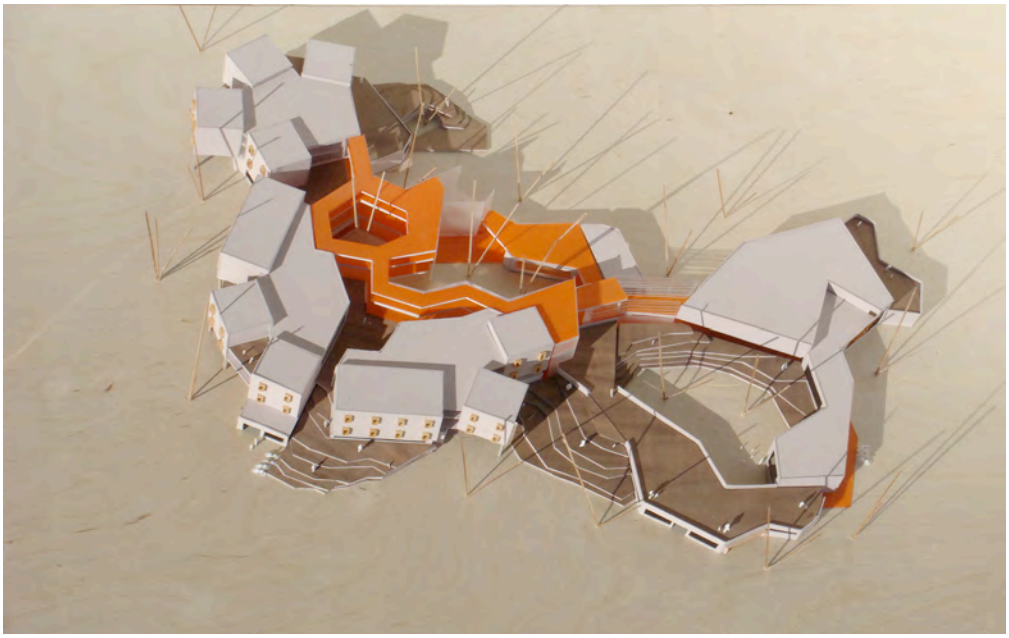


Figure 56. Model: picture of model views of rooftop.

Figure 57. Model: photograph of model from looking north.

Figure 58. Model: photograph of model looking at the exterior of daycare.

Figure 59. Exterior Rendering: North Elevation.

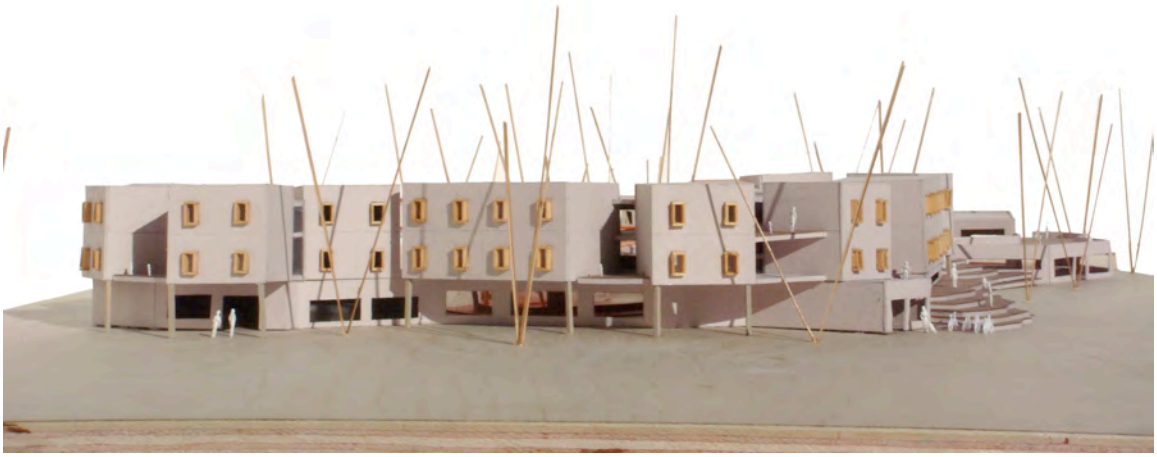


Figure 60. Model: North Elevation.

Figures 61. Exterior Rendering: West Elevation.

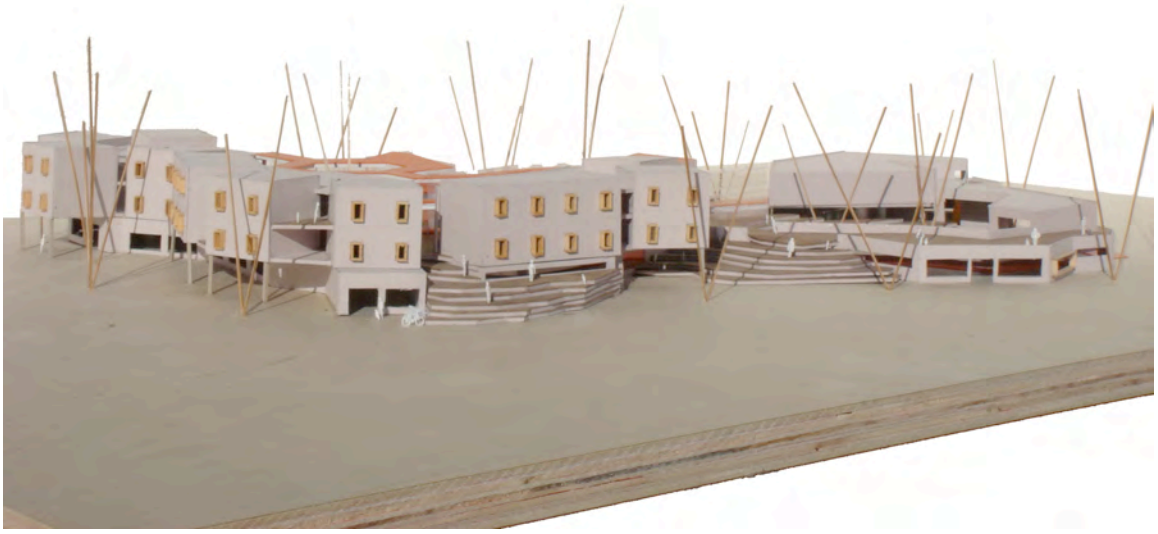


Figure 62. Model: view of West Elevation.

Conclusion

The project offers an opportunity to explore a new typology of housing. As society has changed and the family unit itself has change so should architecture. With modern acceptance of divorce and single parenthood has come a major explosion in this as a common lifestyle. A one-parent family is handicapped, in a financial sense. One parent must provide income, which must include living expense, rent or mortgage and childcare. Programs such as COabode have take the first step in working with the new family typology. In a social way the have come together to form a home environment. Architecture can join this cause and make an even larger influence. Creating a home to accommodate multiple families comfortably, through living and sleeping spaces, would provide a better living environment than a home designed for one family. The typology can be taken in to communities, which already have high numbers of single parent families.

As education housing with specialized services this idea can be taken even further. Going beyond the idea of just creating a more affordable housing solution and an at home support system, this typology can set out to change society. A new typology can begin to break down the statistics the represent the problems associated with single parenthood and poverty, literacy, health, crime, and a repeat cycle for the next generation. A home promoting the priorities of an academic achievement, educate on the importance

of good nutrition and strong family values can be achieved in a well-structured environment. Together mothers and their children will learn the potential they can achieve in a more balanced life. Without a substantial change in the pattern the problem will continue to multiple. More children will remain in the cycle, by far, and then will be able to escape. Architecture can serve as a medium for this change with an understanding of the existing social conditions.

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