



A RESPITE FROM THE HARVEST

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Thesis submitted to the faculty of the Virginia Polytechnic
Institute and State University in partial fulfillment of
the requirements for the degree of

Master of Architecture in Architecture

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December 9, 2005
Blacksburg, Virginia

Keywords: rural architecture, migrant farmworkers, chapel, farmworker housing

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ABSTRACT

In the United States, migrant farm workers are often the lowest paid workers in a multi-billion dollar agricultural industry, and are also often provided substandard housing which lacks the space and basic necessities to live in dignity and hope. After a few years of hard labor and sacrifices, some of these farm workers, called seasonal or resettled farm workers, decide to lay down roots in rural communities around the country where they obtain more stable, year-round work and thus need more permanent homes to raise families and be part of their communities. This thesis documents the research and conceptualization of farm worker housing, a community center and a chapel for these farm workers.

The idea of space, not only as a physical entity but also as a place for events, interactions, and as an enabler of community and progress are the specific areas of study that will drive my research and process. My belief is that Architecture's ultimate goal is that it should be relevant to our daily lives, our dreams and aspirations, that it become a stage for our hopes and dreams, a space to enhance our lives, to serve but not get in the way, to uplift and to recharge our minds, our bodies and most importantly, our souls. I kept these thoughts in mind as I embarked on a journey filled with hope, frustrations, discovery and clarity.

This study is of an Architecture that is not only responsive to the land and the environment, but also to the lives, work, community and culture of its inhabitants; that a place farm workers can call home will emerge and help elevate the living conditions and nurture the continuing narrative of farm workers in America.

“That people could come into the world in a place they could not at first even name and had never known before, and that out of nameless and unknown places they could grow and move around in it until its name they knew and call with love, and call it Home, and put roots there and love others there; so that whenever they left this place they would sing homesick songs about it and write poems of yearning for it, like a lover.”¹

William Goyen, *The House of Breath*

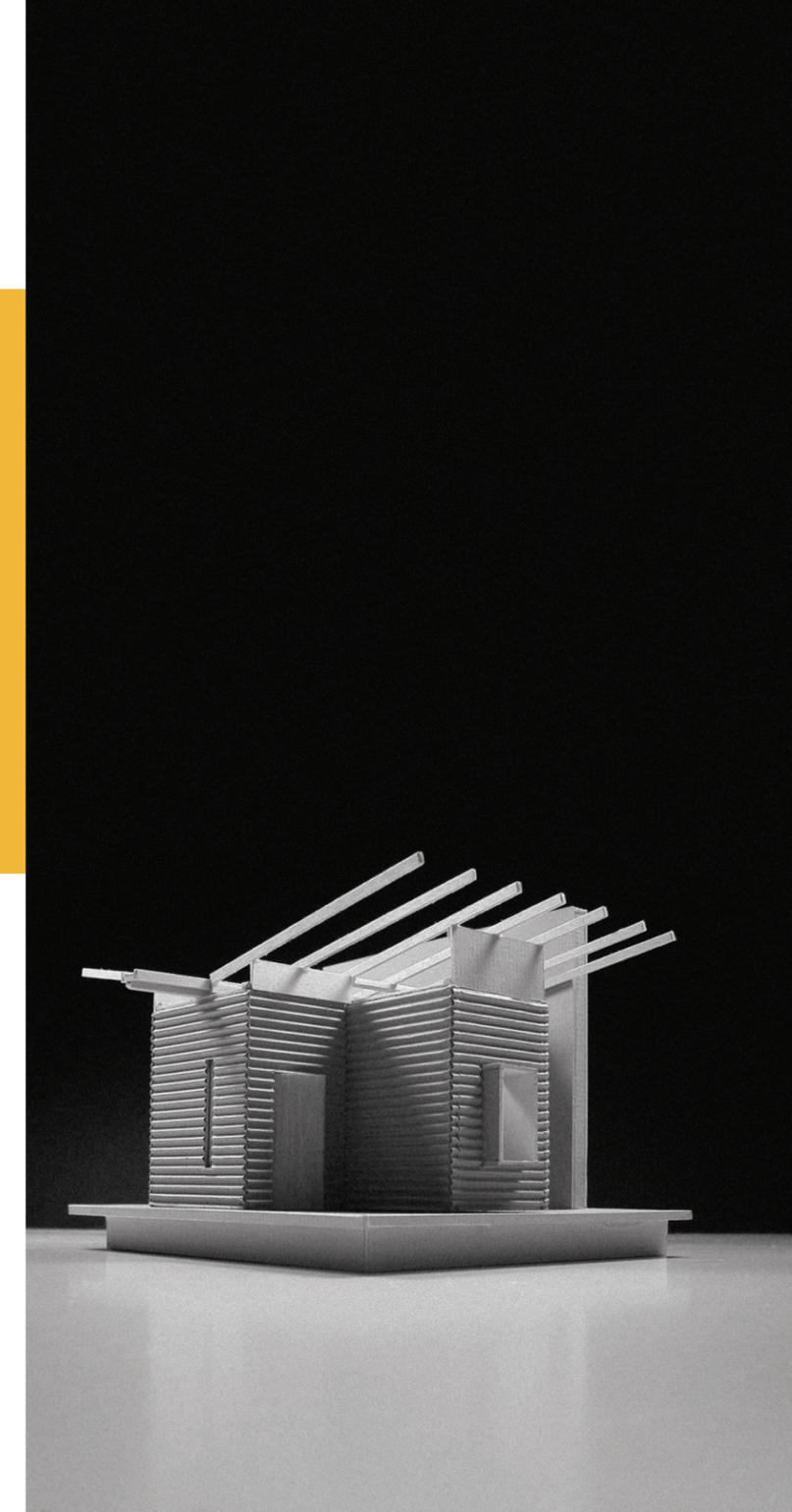


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INTRODUCTION

Can an architecture in search of dignity – for people who can afford it the least – become something both functional and uplifting? My goal for this project is to learn and respond to what architecture's promise and limitations are in relation to solving challenges posed by our society. I am constantly discovering inspiring and excellent solutions to this question. However, I also encounter frustrating and pessimistic views on innovative architecture attempting to serve our society's most vulnerable, be it because of poverty or lack of resources. Does architecture's promise belong to a privileged few? Can an architecture using simple, honest materials crafted with respect and attentive to its ultimate use and user change the way a resident feels about his future? Is this a goal too high or unattainable for architecture?

My belief is that it is not too lofty a goal, rather, it is the ultimate objective of architecture in that it should be relevant to our daily lives, our dreams and aspirations, that it become a stage for our hopes and dreams, a space to enhance our lives, to serve but not get in the way, to uplift and to recharge our minds, our bodies and most importantly, our souls.

Migrant farmworkers, who travel from harvest to harvest, hand-picking the majority of fruit and vegetable crops in this country, are likely the lowest paid workers in a multi-billion dollar agricultural industry, and are also often provided substandard housing which lacks the space and basic necessities to live in dignity and hope. After a few years of hard labor and sacrifices, some of these farmworkers, called seasonal or resettled farmworkers, decide to lay down roots in rural communities around the country where they obtain more stable, year-round work and thus need more permanent homes to raise families and be part of the community. It is for this group, who have decided to make that leap to grow and establish a new community, that this project has taken as its inspirational client.



Photo: Tomas Castelazo
via Wikimedia Commons

This study is of an architecture that is not only responsive to the land and the environment, but also to the lives, work, community and culture of its inhabitants that a place farmworkers can call home will emerge that will help elevate the living conditions and nurture the continuing narrative of farmworkers in the United States.

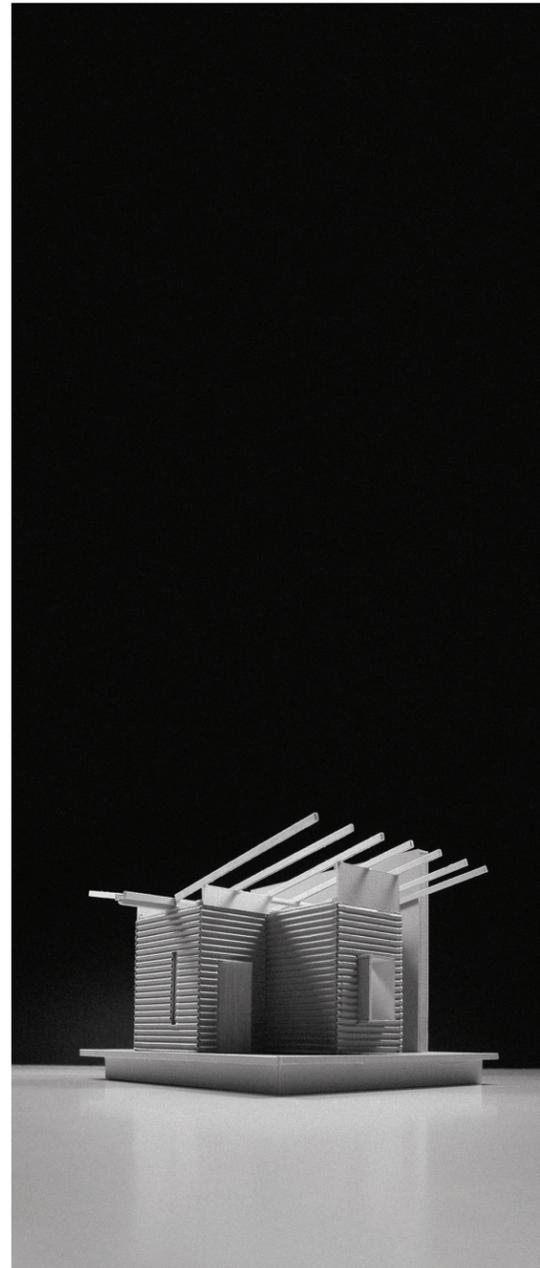
In an attempt to consider all the difficult challenges a farmworker encounters, the idea of space, not only as a physical entity but also as a place for events, interactions, and community are the specific areas that will drive my research and process.

In this thesis, architecture based on the idea of sanctuary and community will be the overarching goal. More specifically, the objective is to provide a home and community that serves as a sanctuary from the hardships of the farmworker's daily labor. The main architectural explorations are the box window and the raised deck.

The box window serves as the smallest and most intimate scale of the house. A home that embraces, yet also provides enough room for dreams and thoughts of the future, is exemplified by the box window. It serves as a space that embraces as one reads a book, or a place of rest as one looks out the window. It allows concentrated light in, focusing it into an aperture that produces a controlled way of welcoming light into the interior. The box also serves as a window shade (brise-soleil) on the outside of the house, as well as a ledge to sit on in the interior of the house. After spending hours outside in the hot sun, it is my contention that an interior filled with a "half light," neither too dark nor too bright, will be best for this space.

The raised deck serves as a connector of houses, a place to sit and catch up with neighbors, a visual connector from one house to the next, bringing the sidewalk closer to the houses. Raising the deck off the ground is also a metaphor for elevating the residents above the soil they worked so hard to harvest, a sense of "floating," of elevating the human spirit. Having the outdoor deck advances the idea of connection and the shared "roots" of the community, an architectural metaphor for the common culture and struggles of migrant farmworkers.

The raised deck and the box window are elements that repeat in the chapel as well. Simple



materials will be used throughout the project including concrete, corrugated galvanized steel, structural insulated panels, light timber framing, and plywood. The choice of materials used are not just for economic reasons but for an aesthetic goal of "noble simplicity." These material choices not only symbolizes the clean, functional austerity of simple materials, but they are also influenced by a rural building vernacular by the materials' use in traditional farm structures, barns, granaries, factories and modest homes.



Photo: Joe McClelland
U.S. National Archives & Records Administration
via Wikimedia Commons

FARMWORKERS

Eighty-one percent of all migrant farmworkers are foreign-born. Seventy-seven percent of these were born in Mexico. They continue a long tradition of people from Mexico harvesting crops in the southwestern United States, including those who came here through the historic farm labor program known as the “Bracero.” Larger numbers of Mexican farmworkers have more recently moved into other regions of the country, including the Northeast and the Southeast. Of note, some workers relocate as a result of the U.S. Government’s H-2A guest worker program. Farmworkers are mostly young as their average age is 31. The physically demanding work is difficult for older workers to perform. Eighty percent of farmworkers are men, and they often must leave their families in their home country while they seek work, although some families work and travel together. Farm work is seasonal. Workers cannot earn money when it rains, while waiting for crops to ripen, when they are ill, or when they are traveling to their next job.



Photo: Dorothea Lange
U.S. National Archives & Records Administration
via Wikimedia Commons

Fifty-four percent of migrant teenagers drop out of high school before graduation. Frequent moves and the need for teenagers to work and contribute to their family’s income make school attendance difficult. At least one-third of migrant children work on farms to help their families; others may not be hired but are in the fields helping their parents. The hard physical labor, dangerous equipment, and pesticide exposure make agriculture one of the most dangerous industries in the United States.

Some migrant farmworkers, in a few years of traveling from harvest to harvest, decide to lay down roots in farm towns where they previously worked. At that point, they may also settle in these towns after they acquire legal residency status. Individuals may decide to bring their spouses and any children they have to the United States. These workers, finding more year-round farm work, can be referred to as “resettled” or seasonal workers. Typically, seasonal workers will be at one or two job locations for most of the year. It is these resettled workers for whom this project is designed.

HOUSING: EXISTING CONDITIONS

Housing for farmworkers varies widely in type and condition. Housing may be provided by the farmers or labor contractors. If it’s not provided, workers must search out housing on their own – a difficult task in rural areas where there is not adequate housing for the large influx of migrant workers. Some workers unable to find housing may live in their cars.

Employer-owned housing ranges from houses for individual families to large barrack-style buildings for many workers. Conditions vary considerably – from overcrowded, dilapidated wooden structures without running water, to mobile homes, to new housing, often funded through government loan programs. Employers understand the role that good housing can play in attracting workers to their farms. A migrant family that finds safe, clean housing will be reluctant to move in search of other work. As a result, many farmer and farmworker groups have encouraged increases in state and federal funding for farmworker housing.

RELIGION

Religion has traditionally played a significant role in the Mexican daily activity. More than 90 percent of the Spanish-speaking world is Roman Catholic. The church influences family life and community affairs, giving spiritual significance to the Hispanic culture. Each local community celebrates its patron saint’s day with greater importance and ceremony than individuals do for personal birthdays. Having a place to worship and gather for community affairs is central for this group. With this in mind, the idea of creating a chapel that also serves as a community center became an important part of this thesis.

Sources: Kay Embrey, Senior Extension Associate, *Coming Up on the Season: Migrant Farmworkers in the Northeast*, Cornell Migrant Program. (Ithaca: Cornell University 2001)

Linda Norris, and Kathryn Grover. 2001. *Coming Up on the Season: Migrant Farmworkers in the Northeast* (Unpublished exhibit script).

Findings from the National Agricultural Workers Survey 1997-98, USDOL, March 2000; Health Problems among Migrant Farmworker’s Children in the U.S. ERIC Digest, 1993.

United States Department of Labor. March 2000. National Agricultural Workers Survey 1997-1998.

PRECEDENTS

The Butterfly House

Samuel Mockbee & The Rural Studio
Mason's Bend Alabama, 1997

The Rural Studio, founded by Professor Samuel Mockbee, is a group of Auburn University students who designs and build structures for the residents of Mason's Bend, Alabama. The Rural Studio is used as a community outreach effort as well as a solid learning experience for the students. The students provide all the labor to build the Studio's projects and the group focuses on using reclaimed and sustainable building materials.

Designed and built for the Harris family in Mason's Bend, Alabama, the "Butterfly House" derives its name from the unique shape of the home's roof. The roof's two large intersecting rectangles provide cover to a 250-square foot screened-in porch and are reminiscent of a butterfly's wings. The angled-roof also supplies a means to collect and reuse rainwater in daily cleaning routines and an effective gray water plumbing system within the home. Samuel Mockbee encouraged the students building the Harris' house to emphasize the porch area when he realized the amount of time the Harris family spent on their previous six-by-fourteen-foot porch. The Butterfly House allowed the Harris family to live comfortably in a larger version of their previous home. Rural Studio students provided Mrs. Harris, who is handicapped and navigates with a wheelchair, complete mobility within her home by constructing subtle access ramps, wide doorways and low bathroom features. The walls of the home were formed using salvaged wood from a recently razed 105-year-old church near the site.



Source: Andrea Oppenheimer Dean, *Rural Studio: Samuel Mockbee and an Architecture of Decency*. 1 ed. (New York: Princeton Architectural Press, 2002)

Magney House

Glenn Murcutt, 1975,
Bingie Point, Australia

This house was designed for a client who had previously camped on the site and was interested in maintaining that experience of being intimately part of nature and the environment. Architect Glenn Murcutt achieved this through the use of a curved roof inspired by a simple canvas tent and in involving light, air and water in the design of the house.

Glenn Murcutt articulated his design philosophy in this statement, "Architecture should neither oppose nature nor prevent its occupants from enjoying the landscape; it should reveal the environment to them and enable them to live in it [...] Water, air and light, the basics of organic life, are not seen merely as necessities for survival: the challenge is to make them visible, legible, almost palpable, to make their presence felt in the very stuff of the building."

The overhang of the roof has been clipped at the equinox cut-off sun angle, so as to permit desirable winter sun to penetrate into the house, while blocking out the hot summer sun. External operable metal blinds allow the occupant to modulate the amount of light, while ensuring solar heat gain is prevented when disadvantageous. The living rooms are oriented such that they maximize the sun and view, while the service spaces are located on the other side of the circulation against the brick wall.

The brick wall and concrete slab act as a thermal sink. The shape of the roof is such that it is steep enough for water to drain without allowing too



much uplift from the wind. Cross ventilation is achieved through the southern vents and the shape of the roof that pulls the air along the ceiling and out the windows.

The roof is shaped specifically for the collection of water and to promote natural ventilation of the interior. The drain pipes are highlighted at either end of the house, which draws one's attention to the collection of the water that is further emphasized by the offsetting of the end of the pipe from its base. Not only is the water made more visible, but the choice of materials amplifies the sound of the rain both on the roof and through the drainage system. In addition, the gutter corresponds with the internal circulation of the house augmenting the awareness of the presence of water on the site.

Sources: http://architecture.mit.edu/class/nature/student_projects/2006/meelena/urban-nature/magney-house.html

Philip Drew, *Leaves of iron: Glenn Murcutt, pioneer of an Australian architectural form* (NSW, Australia: Angus & Robertson, 1991)



St Benedict Chapel

Peter Zumthor

Sumvitg, Switzerland 1988

Pritzker Prize-winning Peter Zumthor and Annalisa Zumthor designed the Caplutta Sogn Bened- etg (St. Benedict's Chapel) in Sumvitg, Switzerland, completed in 1988. The tear-dropped building flairs slightly at the base as it meets the concrete foundation. The wood shingle cladding gives way to full clerestory windows at the top. Vertical slats disperse the light inside, accentuating the bare timber interior.

“Zumthor always emphasizes the sensory aspects of the architectural experience. To him, the physicality of materials can involve an individual with the world, evoking experiences and texturing horizons of place through memory. He recalls places he once measured out at his aunt's house through their sensual qualities. Zumthor's Vals spa recounts the thinking he describes in his essay, making appeals to all the senses. The architect choreographs materials according to their evocative qualities. Flamed and polished stone, chrome, brass, leather and velvet were deployed with care to enhance the inhabitant's sense of embodiment when clothed and naked. The touch, smell, and perhaps even taste of these materials were orchestrated obsessively. The theatricality of steaming and bubbling water was enhanced by natural and artificial light, with murky darkness composed as intensely as light. Materials were crafted and joined to enhance or suppress their apparent mass. Their sensory potential was relentlessly exploited with these tactics, Zumthor aimed to celebrate the liturgy of bathing by evoking emotions.”

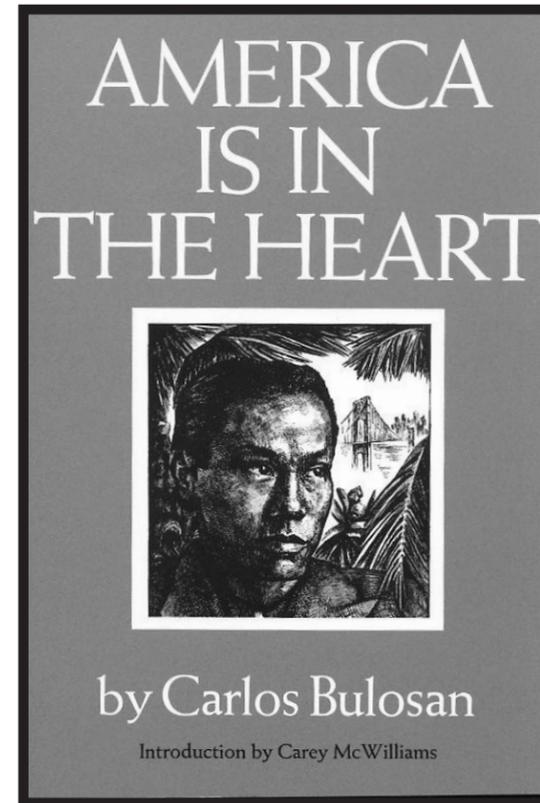
Source: Tiffany Chu, <http://www.dwell.com/articles/A-Pilgrimage-to-Zumthors-Chapel.html>, October 5, 2010.

WORDS TO IMAGES

My interest on the plight of the migrant farmworker was brought about by a book that I read years ago. The book is titled *America is in the Heart* written by Carlos Bulosan, a Filipino writer who emigrated to the United States in the early 1900s. The book documents his struggles working in the farms as well as the lives of his fellow migrant farmworkers during the Great Depression of the 1930s and 40s. I was drawn to this book because it spoke of the heartaches as well as the small triumphs of Mexican and Filipino farmworkers of the time.

Bulosan's *America Is in the Heart* is one of the few books that details the migrant workers' struggle in the United States during the 1930s through the 1940s, a time when signs like "Dogs and Filipinos not allowed" were common. The struggles included "beatings, threats, and ill health." In this book, Bulosan also narrates his attempts to establish a labor union. Bulosan's book is also compared to the book *The Grapes of Wrath* by John Steinbeck, except that the main and real characters were brown-skinned. Despite the bitterness, however, Bulosan reveals on the final pages of the book that because he loves America, no one could ever destroy his faith in his new country. In this personal literature, Bulosan argues that despite the suffering and abuses he experiences, America was an unfinished "ideal in which everyone must invest [...] time and energy, [...], this outlook leaves us with a feeling of hope for the future instead of bitter defeat." According to Carlos P. Romulo when he was interviewed by The New York Times, Bulosan wrote *America Is in the Heart* with "bitterness" in his heart and blood yet with the purpose of contributing "something toward the final fulfillment of America."

Through *America Is in the Heart*, Bulosan was able to share a unique perspective on Asian life in the United States in general, but particularly that of Filipino-Americans during the first half of the 20th century. It is a book that encourages people of all races and genders to ponder and improve their relationships with one another.

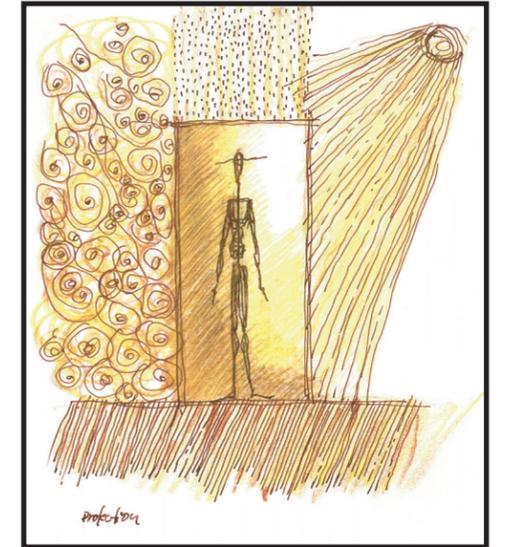
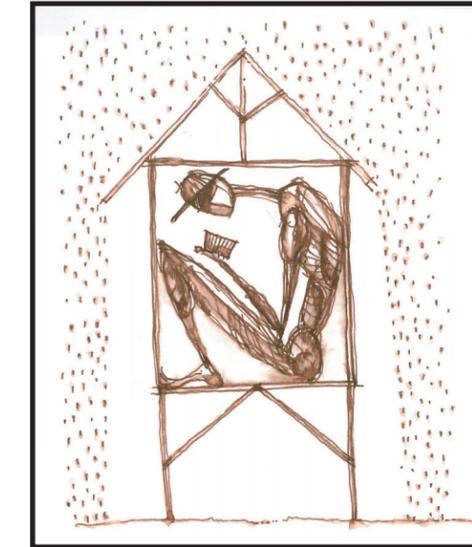


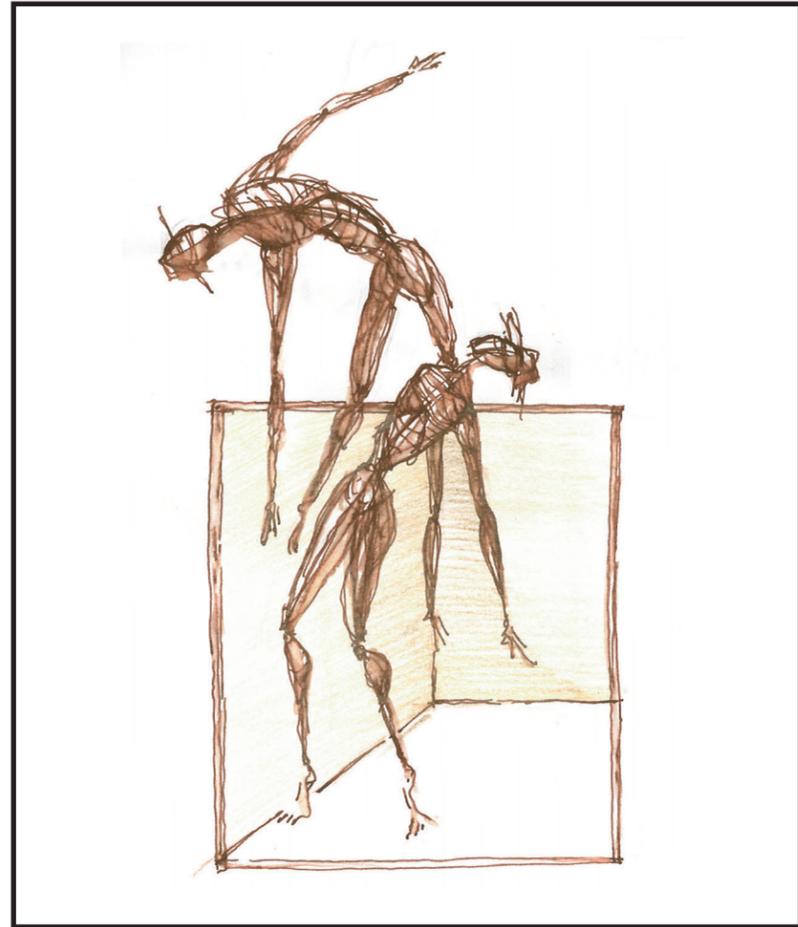
Book cover of *America is in the Heart* by Carlos Bulosan, first published in 1946. University of Washington Press

As I was born in the Philippines, this book resonated with me as it gave me a brief history of Filipinos in America. It was eye-opening to read about the horrid conditions farmworkers lived in, the corrupt worker supervisors they had to work under and the challenges of being an invisible minority with no protection from the abuse of the growers and the hazardous, back-breaking working conditions they had to endure. Sadly, some of those terrible living conditions are still the norm in some farmworkers' camps, as affordable housing is not readily available. Usually, these workers group together to rent apartments, accept substandard housing provided by a few farms for a fee, or live outdoors in tents with inadequate access to clean water and bathroom facilities.

While doing my research, I was particularly inspired by this book as well as two others; *The House of Breath* by William Goyen and *100 Years of Solitude* by Gabriela Garcia Marquez. These books provided me not only fertile inspiration but also certain images that I put down on paper as illustrations. This was a way for me to organize some thoughts and turn them into visual images. Some illustrations were simply a way to get things down on paper, while others became ideas for the actual design of this project.

Source: http://en.wikipedia.org/wiki/America_Is_in_the_Heart



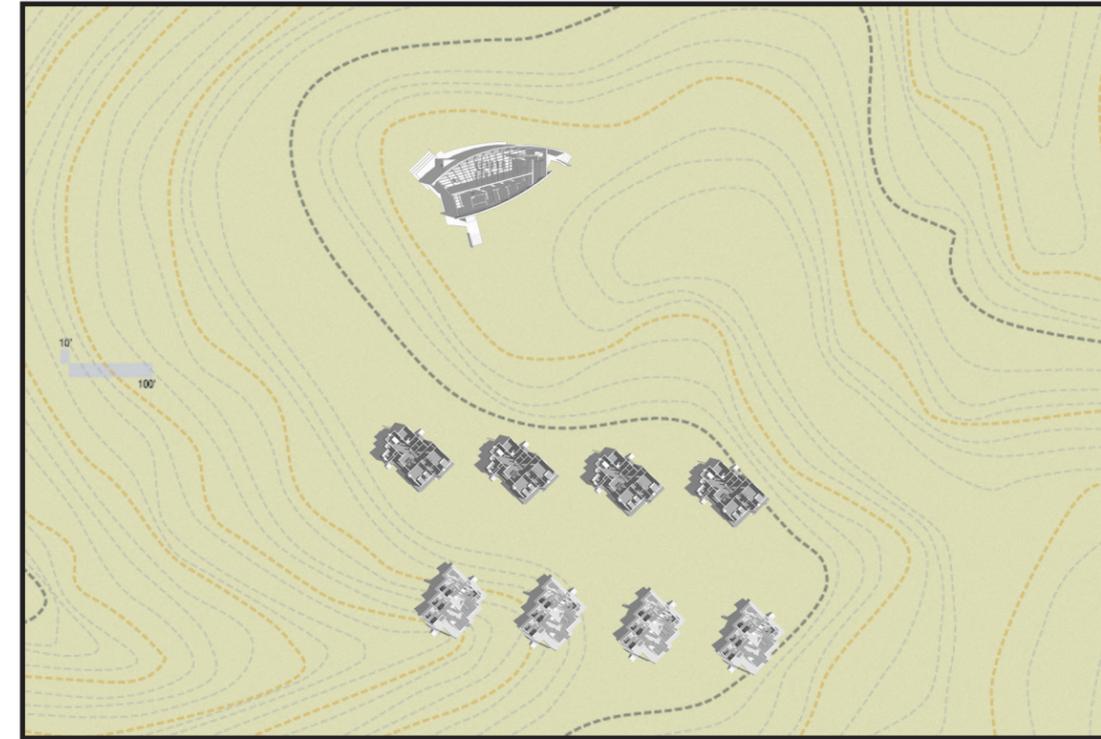


THE SITE

Present day Floyd County in southwestern Virginia was among the first areas explored when Virginia colonists began to push into the state's mountains. In the mid-to-late 1600s, expeditions began to map the area that was then principally a hunting-ground by Indians, including the Canawhay tribe. The first white settlements in the area occurred in the mid-18th century. By the 1790s, English, German, French, Scottish and Irish immigrants settled in what is now Floyd County. One of the first industries, Spangler's Mill, was also established in this time period. Watermills such as this one continue to symbolize the resourcefulness of residents and the importance of natural resources and living in touch with the land.

An agriculture community at heart, Floyd County, located amidst the unspoiled beauty of the Blue Ridge Mountains in southwestern Virginia, is surrounded by gently rolling hills and is home to more than 700 farms. The mountain climate makes Floyd an ideal location for growing hundreds of acres of apples and vegetables such as sweet corn, cabbage, snap beans, cucumbers, sweet peppers, squash, tomatoes and pumpkins.

The site is located about a mile west of the small town center on a gently rolling hill, close to a main road. This location was selected because of its close proximity to the town center as well as a local supermarket. Most farmworkers do not own cars and the site's proximity to retail shops and basic services is of prime importance as it becomes easier for the farmworkers to walk to these stores and businesses. The site also offers a quiet area away from the town center.



Coordinates: Latitude 36.91 Longitude 80.32

The actual site is on a gently sloping hill. To the north is a main road that goes through the center of town. To the south, there is another hill and an old cemetery.

Source: <http://floydcova.org/visitors/history.shtml>

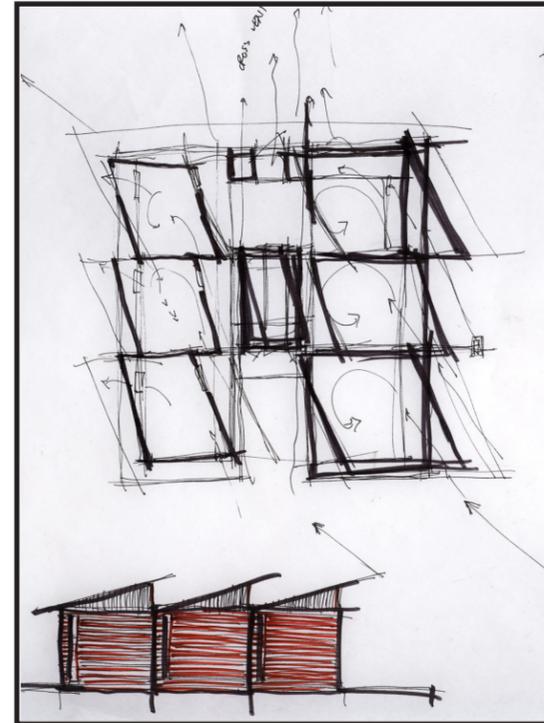
THE SINGLE WORKER DWELLING

The design of these homes enables the separation of “resting” areas from the “living” areas. This enables residents who would like to retire early to enjoy visual and auditory separation from the residents who would tend to retire later in the evening. The separations are provided by a hallway leading to a dormitory style bathroom, thicker than average walls with sound insulation, as well as closets at certain locations to further buffer noise. The staggered placement of the bedrooms help individualize the bedrooms and create added opportunities for windows to let more light enter these rooms. From the exterior, this staggered placement also delineates the spatial extents of the rooms, to further the individualization of the rooms. Just like the family dwellings, the materials used for these houses are economical, readily available, easily handled and transported to make the construction economically feasible. These materials include SIPS (Structural Insulated Panels), corrugated sheet metal, board and batten, light timber and CMUs (Concrete Masonry Units). The materials implemented and the form of the house acknowledges American rural vernacular architecture such as farm-houses, sheds, barns and industrial structures.

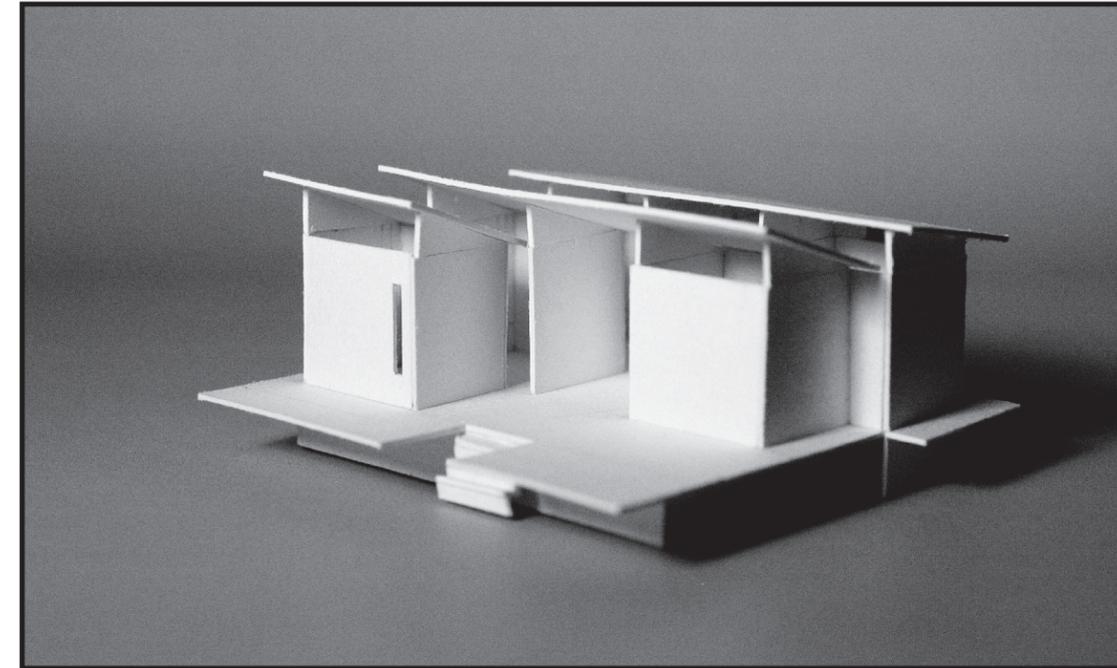
The single-worker dwelling has three bedrooms which accommodate a total of six people. Each bedroom's hallway is staggered to further give auditory and visual separation from the living room and the dining room.

The house has a bathroom with three sinks, three shower stalls, one urinal and two toilet stalls. The number of sinks and stalls are so that multiple individuals can get ready at the same time.

The staggered design of the house in plan is also reflected in side and front elevations. Viewing the house from the front, one can see the staggered height of the roof where windows are placed just below the roofline to let more light into the house. From the side elevation,



Early sketch of single worker dwelling.



Study model of the single worker dwelling.

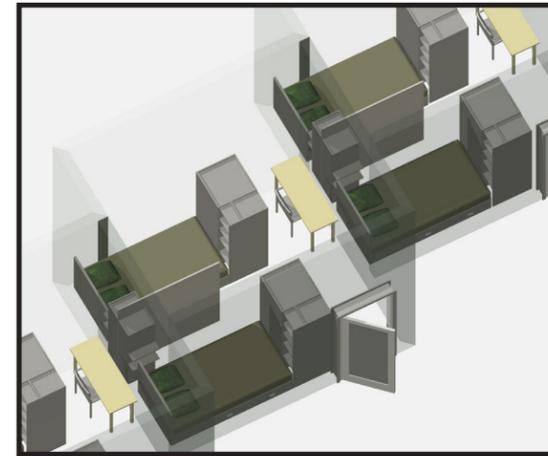
the staggered configuration shows the individualization of the bedrooms.

This design also affords extra windows on the overhangs in plan, bringing in more light into the bedrooms.

At the entrance to the house, there is a changing area with benches and an outdoor closet to hang dirty coats, boots and any tools or small equipment the workers may need on a daily basis. This helps keep any dirt or debris from coming into the house and provides a convenient place to change and store things.



Staggered layout of bedrooms in plan view.

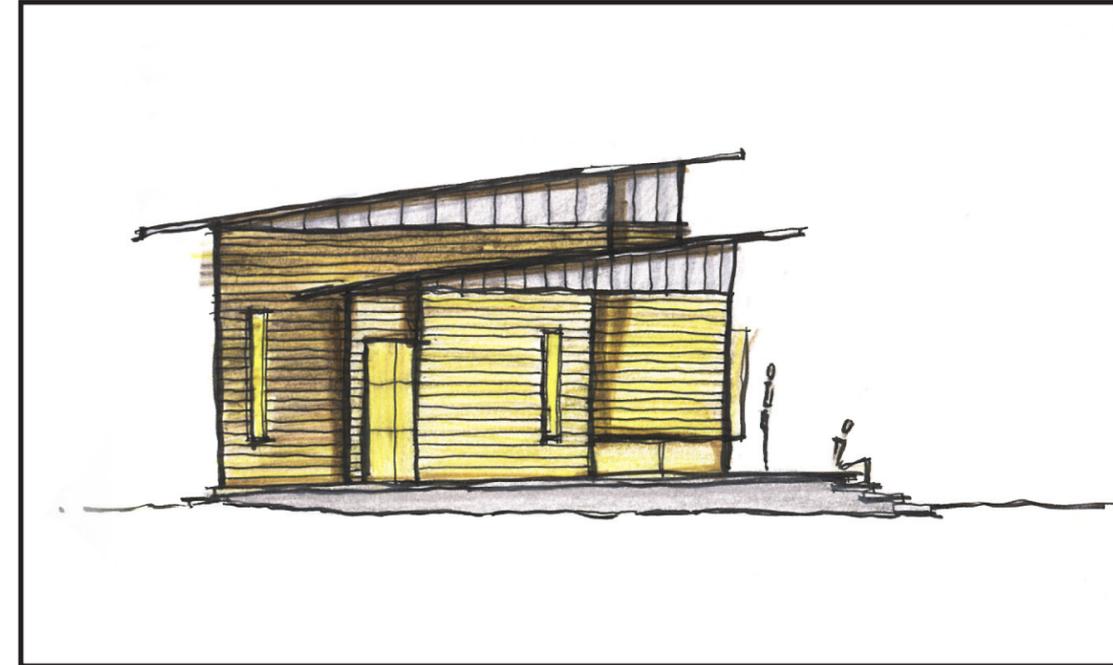


Bedrooms with privacy panel and ample storage.

Privacy and Storage

As this is a place for six single workers to live, privacy and individual storage areas are important in the design of this building.

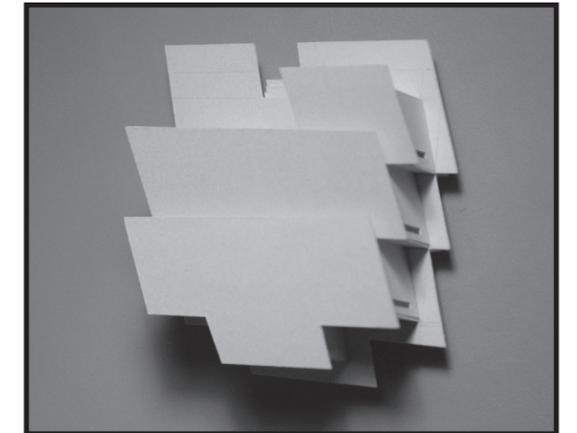
Each bedroom has two beds with a room divider to give individuals more privacy. At the foot of each bed is a ceiling height block of storage drawers, shelves and a mirror for all the belongings and clothing of each individual. Beside the head of the bed and attached to the divider wall, there are also additional shelves and storage for personal items. These shelves could serve as a nightstand where a lamp could be placed. There is one small desk and a chair in each room.



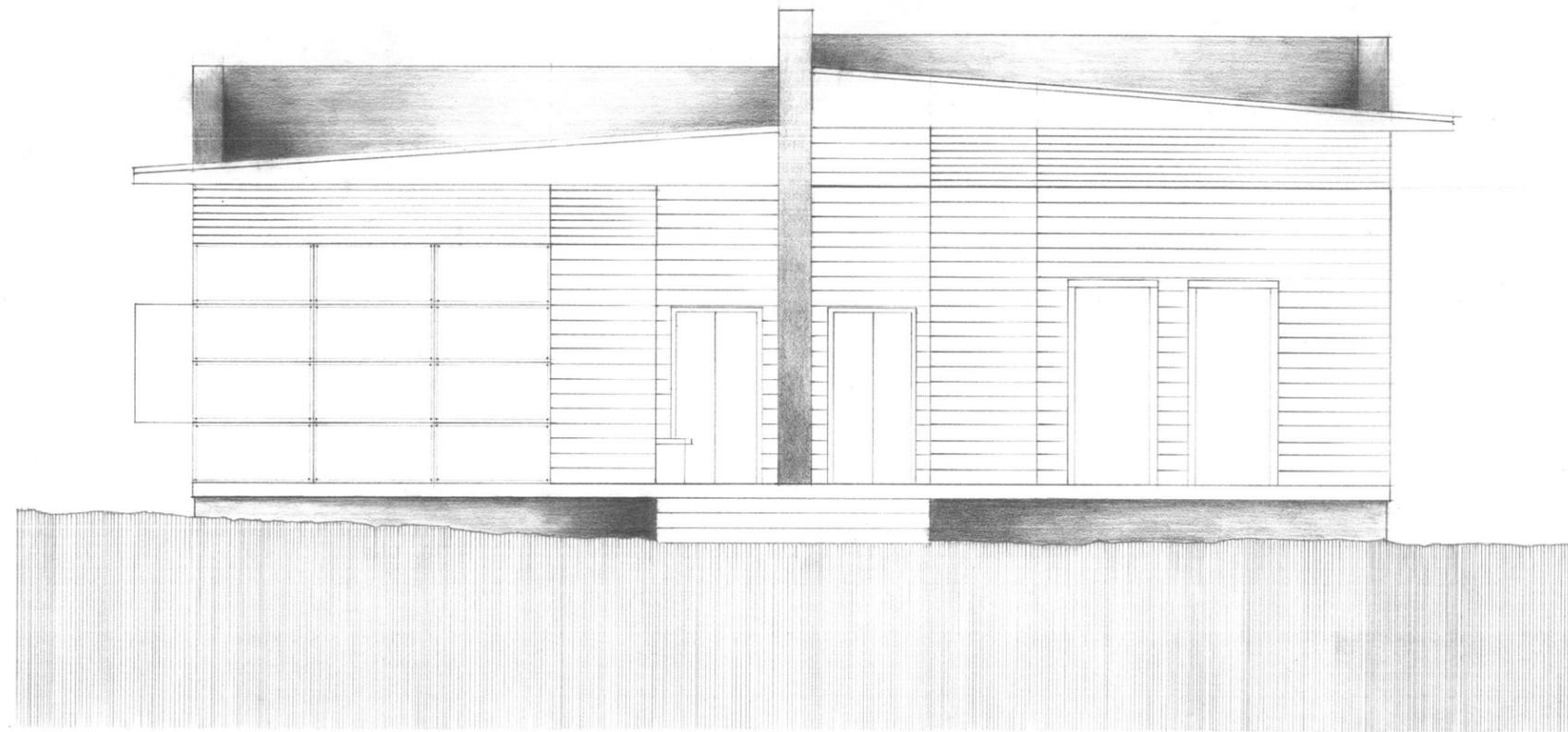
Early study sketch for the single worker dwelling.
Side Elevation



Study model of the single worker dwelling.
Side Elevation

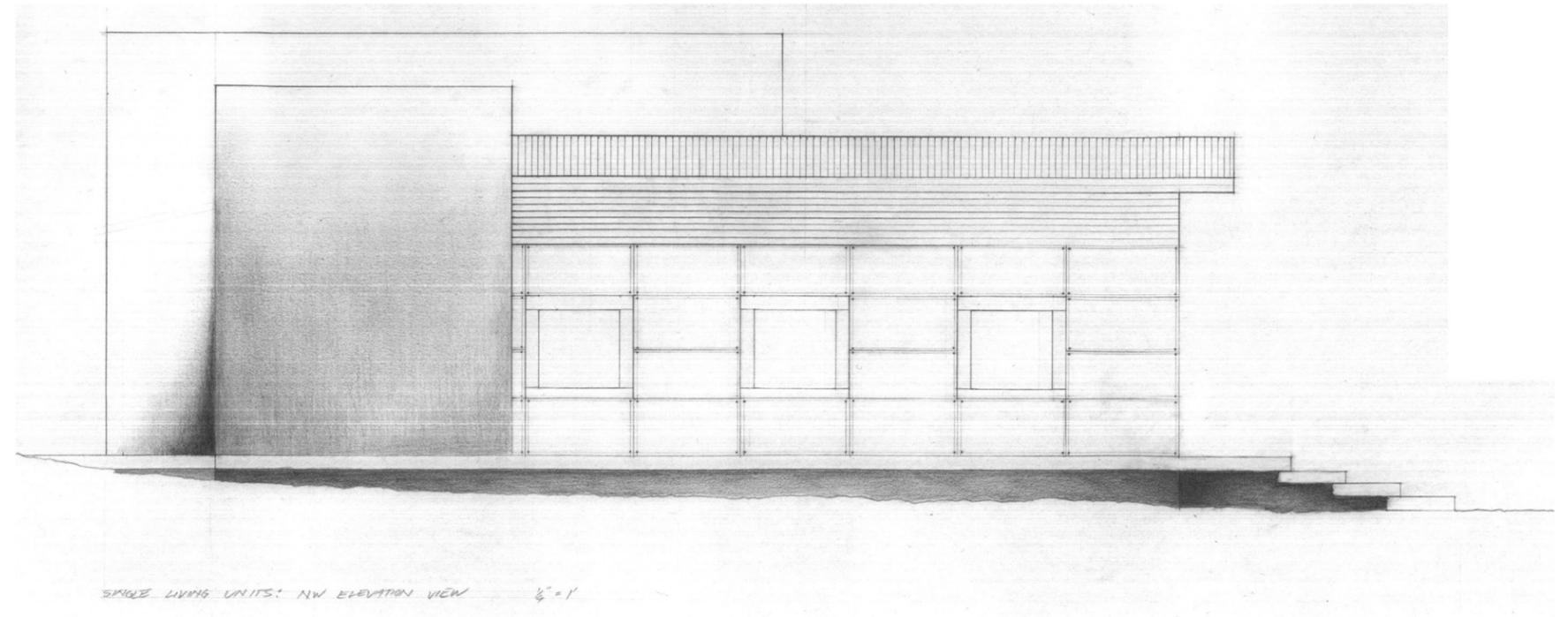


Study model of the single worker dwelling.
Plan View



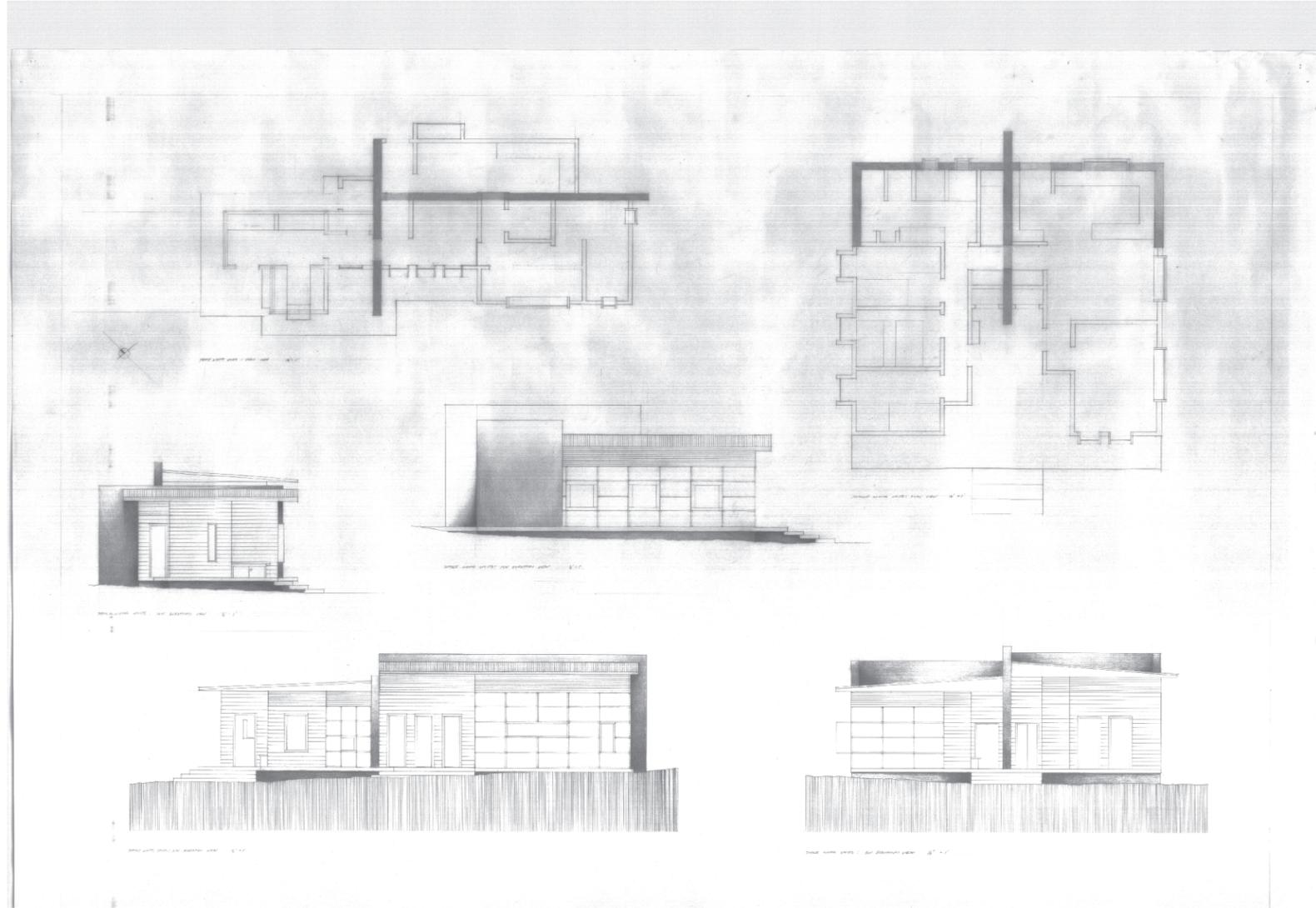
SINGLE LIVING UNITS : SW ELEVATION VIEW $\frac{1}{4}'' = 1'$

Early study sketch for the single worker dwelling.
Front elevation.



SINGLE LIVING UNITS : NW ELEVATION VIEW $\frac{1}{8}'' = 1'$

Early study sketch for the single worker dwelling.
Side elevation.



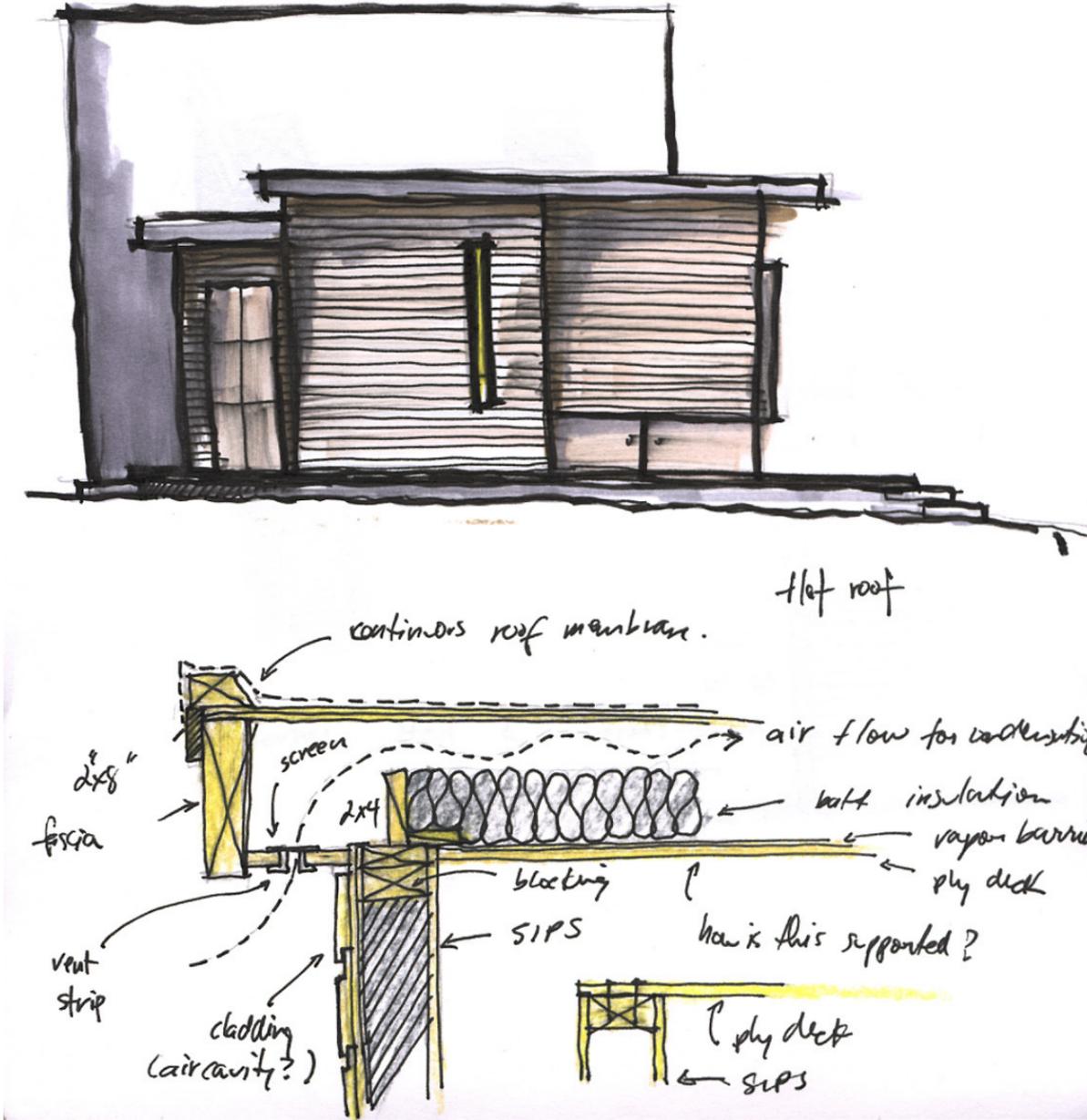
Early study sketches for the single worker dwelling.



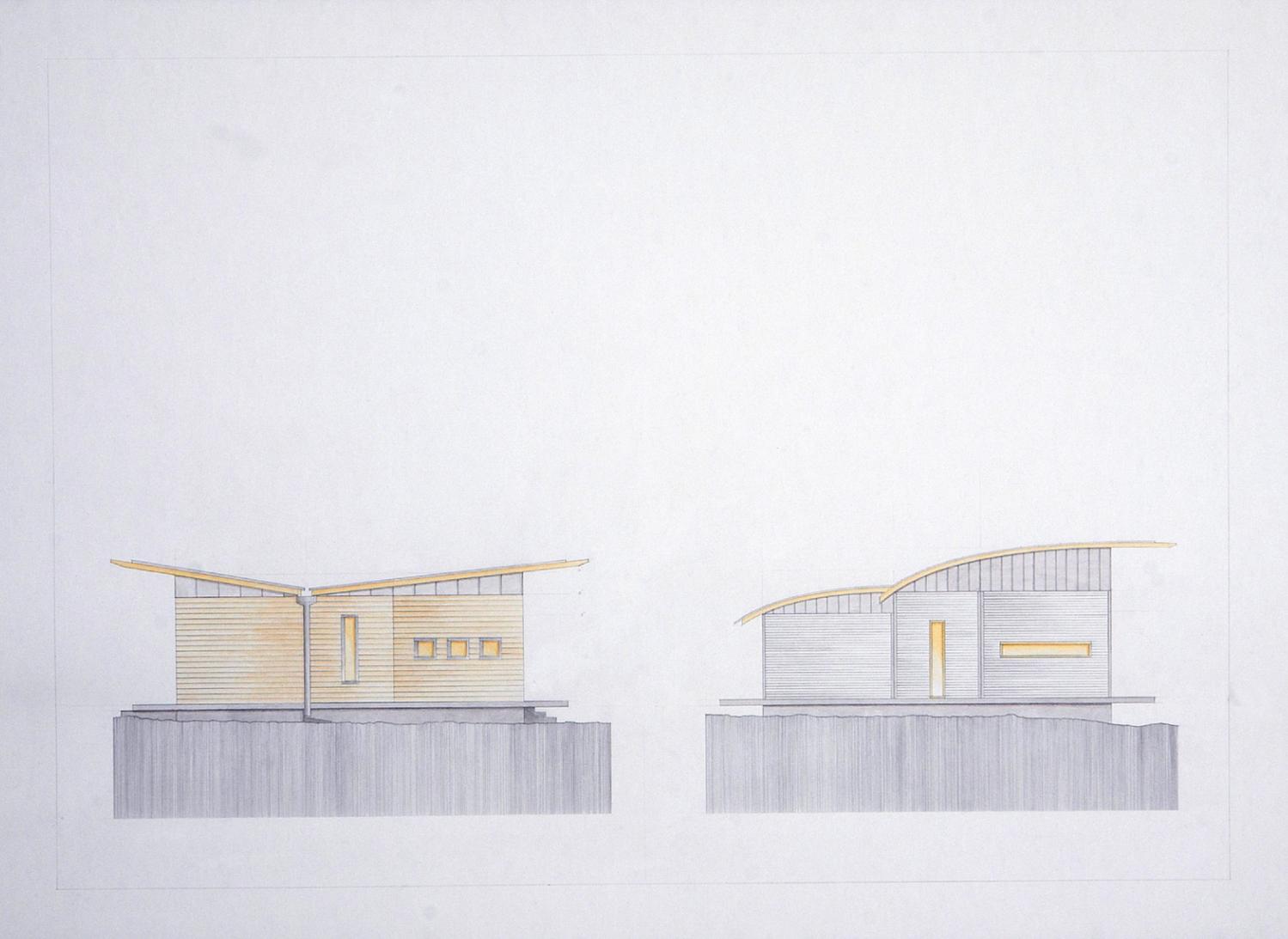
Early design study for the family dwelling which inspired the single-worker homes.
The box window idea is extended to the doors.



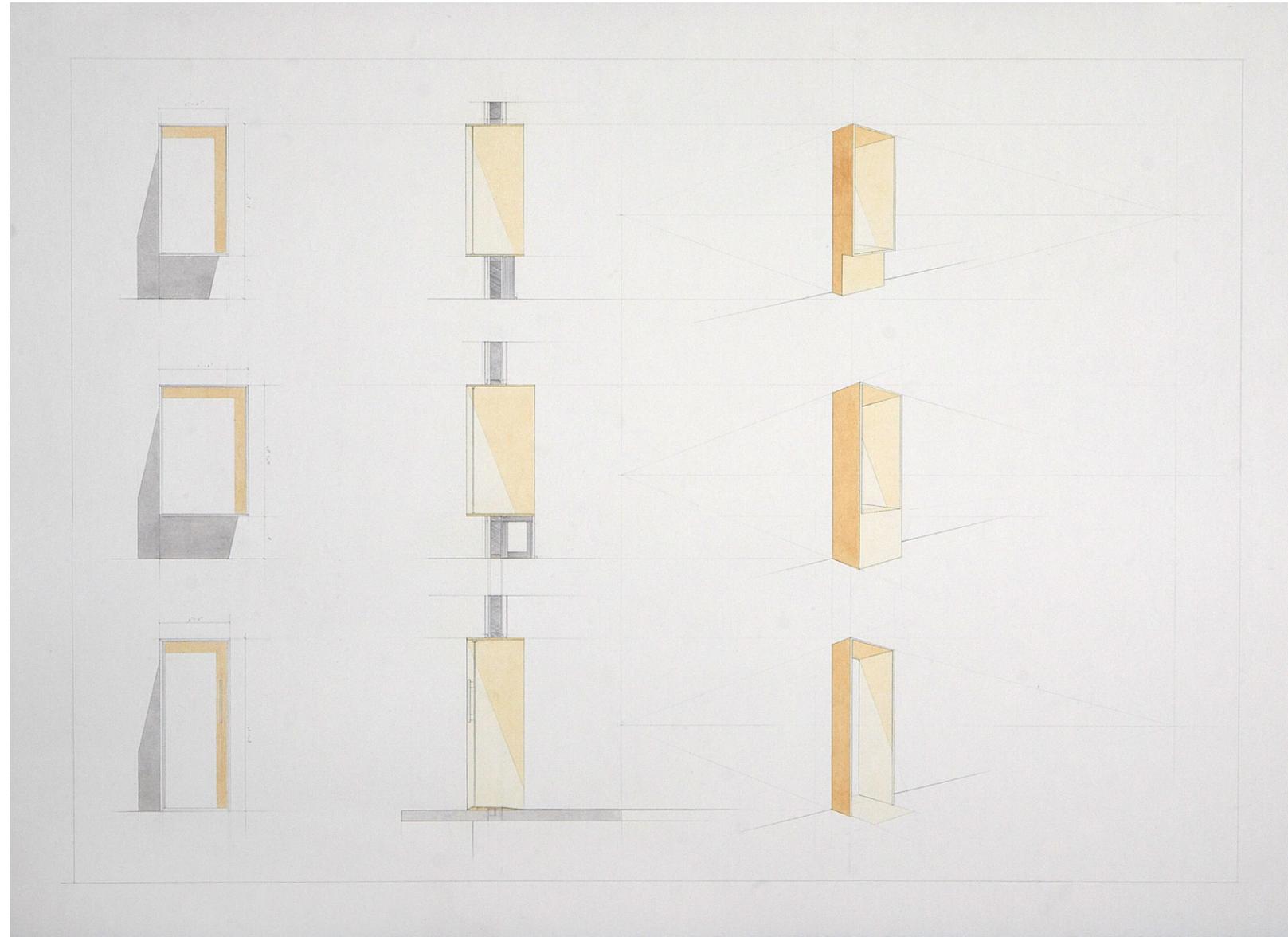
Early study model with roof construction and drainage.



Early study model with alternate roof construction.



Study drawings for variations on the roof design.
Side elevation view.



Study drawings for the box windows with design options.
Left to right: Elevation, Cross-Section and Interior Perspective view.

THE BOX WINDOW

Kenneth Frampton, in his essay, "Critical Regionalism," describes the work of Mexican architect Luis Barragan. "Barragan has always sought a sensual and earthbound architecture; an architecture compounded out of enclosures, stelae, fountains, water courses, color saturation."

Barragan writes, "Architects are forgetting the need of human beings for half-light, the sort of light that imposes a sense of tranquility, in their living rooms as well as their bedrooms. About half of the glass that is used in so many buildings - homes as well as offices - would have to be removed in order to obtain the quality of light enables one to live and work in a more concentrated manner, and more graciously. We should try to recover mental and spiritual ease and to alleviate anxiety... The pleasures of thinking, working, conversing are heightened by the absence of glaring, distracting light."²

The box window is a device to create this "half light," letting in a more diffused light because of the shading produced by the box's "walls" and "ceilings." It lets concentrated light in, focuses it into a smaller aperture compared to regular windows, producing a more controlled light into the interior of the house.

The box also serves as a window shade (a brise-soleil) on the exterior of the house as well as a ledge to sit on in the interior of the house. After spending hours outside in the hot sun, it is my intent that an interior filled with a half-light — neither too dark nor too bright — will be best for this space. It serves as a space which embraces as one reads a book or a place of rest and contemplation as one stares out the window while it snows outside.

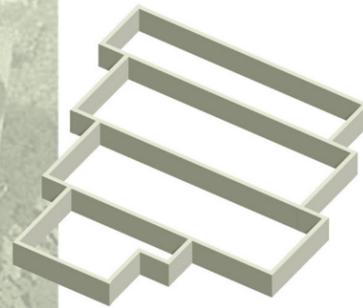
The frame of the window extends well past the interior and exterior wall. It becomes a space that envelopes a person rather than just a building element to look out of. This extension of the frame, which includes an extended ledge to sit on, becomes another space within the wall that extends both into the interior and the exterior of the house. It is in the tradition of bay windows, but in a more intimate sense—it is smaller to accommodate at most one adult or two small children. The structure embraces as it allows one to lean on the sides of the interior walls with legs crossed.

The box window also creates a nice frame for the windows on the exterior of the house—not merely being a part of the plane of the exterior wall. It goes past it to create its own plane. It also becomes a ledge on the outside where it can be used for the same purposes as in the interior side of the box window.

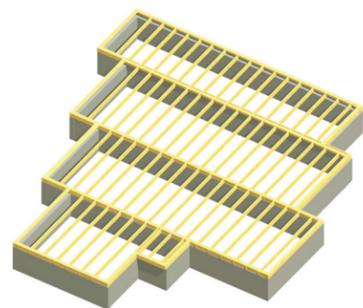
farmworker community: single worker dwelling

single worker dwelling:

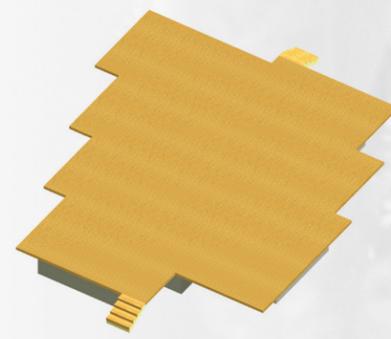
The design of these homes enables the separation of "resting" areas from the "living" areas. This enables residents who would want to retire early to enjoy visual and auditory separation from the residents who would tend to retire later in the evening. The separations are provided by a hallway leading to a dormitory style bathroom, thicker than average walls with sound insulation as well as closets at certain locations to further buffer noise. The staggered placement of the bedrooms help individualize the bedrooms and create added opportunities for fenestrations to let more light enter these rooms. From the exterior, this staggered placement also delineates the spatial extents of the rooms, to further the individualization of the rooms. Just like the family dwellings, the materials used for these houses are economical, readily available, easily handled and transported to make the construction economically feasible. These materials include SIPS (Structural Insulated Panels), corrugated sheet metal, board and batten, light timber and CMUs (Concrete Masonry Units). The materials implemented and the form of the house acknowledges American rural vernacular architecture such as sheds, barns and industrial structures.



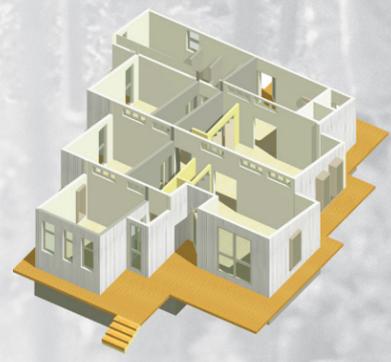
Perimeter Foundation: Concrete Masonry Units



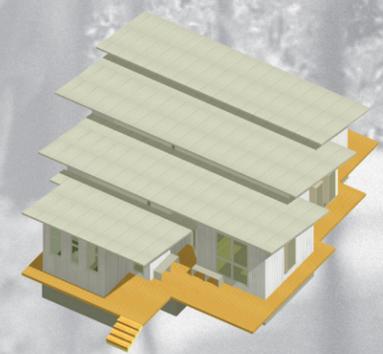
Floor/Deck Supports: Pressure Treated Lumber



Floor: Pressure Treated Lumber and OSB Sheathing (Oriented Strand Board) for Interior Sub-Flooring



Walls: Exterior: SIPS (Structural Insulated Panels) Interior: (Light Timber Framing)



Roof: Corrugated Metal

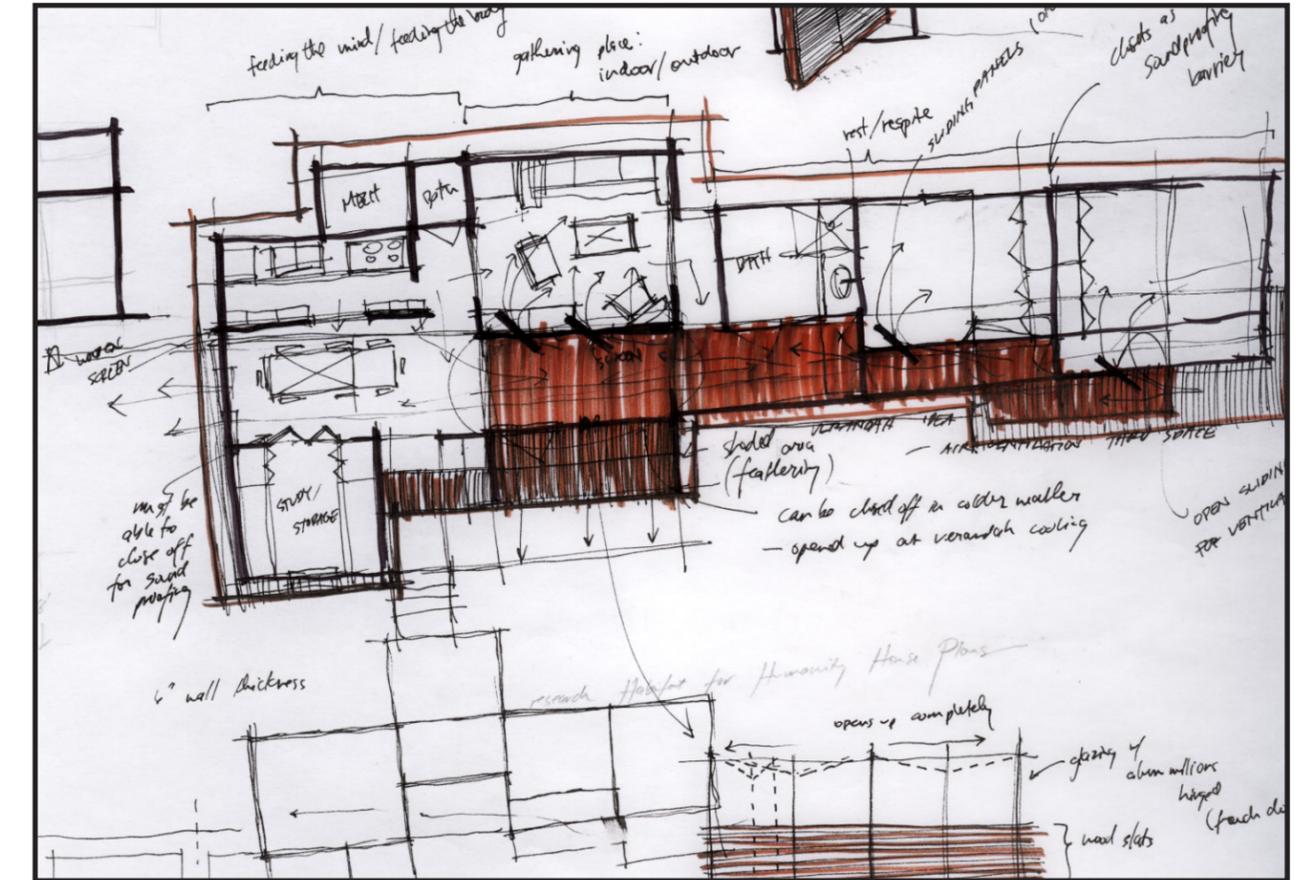
THE FAMILY DWELLING

These homes are designed for a single family with children. The design of the family units focuses on providing all the necessary spaces for a family living in a more compact footprint. As in the single-worker dwelling, the box window and the raised platform deck are the primary design elements. Privacy, shared spaces and storage are also of prime importance.

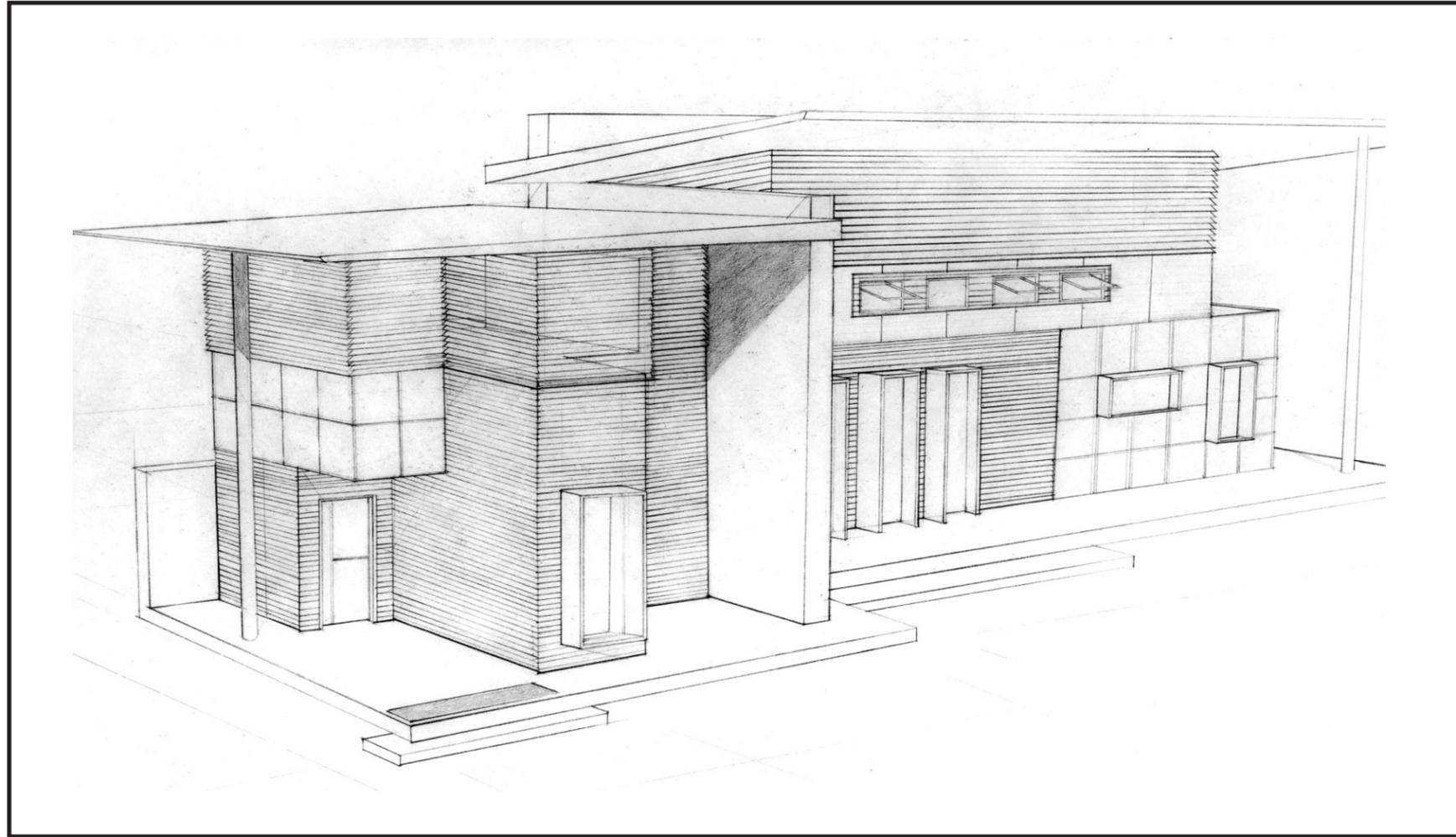
The addition of the small study room is based on research documenting the difficulty of farmworker children finding quiet spaces to study and do their schoolwork, a space normally unavailable in current farmworker housing or apartments. Another goal of the design is to provide a unique profile to the house with the addition of the butterfly roof, a move away from the more traditional roof and profiles of manufactured homes. An additional element which further gives the home a more rooted and permanent stance is the concrete masonry unit foundation and the raised platform deck. The raised wood platform deck elevates the house off the ground level, casting a slight shadow and providing clearance for water runoff from the slight sloping grade. The box windows around the whole house let in light in a very focused manner, while at the same time providing a space to sit in while enjoying the view.

The construction of the houses maximizes the use of readily available and easily constructed materials such as concrete masonry units, corrugated metal roofs, SIPS (Structural Insulated Panels), and light timber. The materials used also gives a nod to American vernacular rural architecture such as farmhouses, sheds, barns, and industrial and utilitarian structures.

This early sketch explores the airflow within the house as well as sight-lines through windows and doors. It also studies the relative distances between houses.

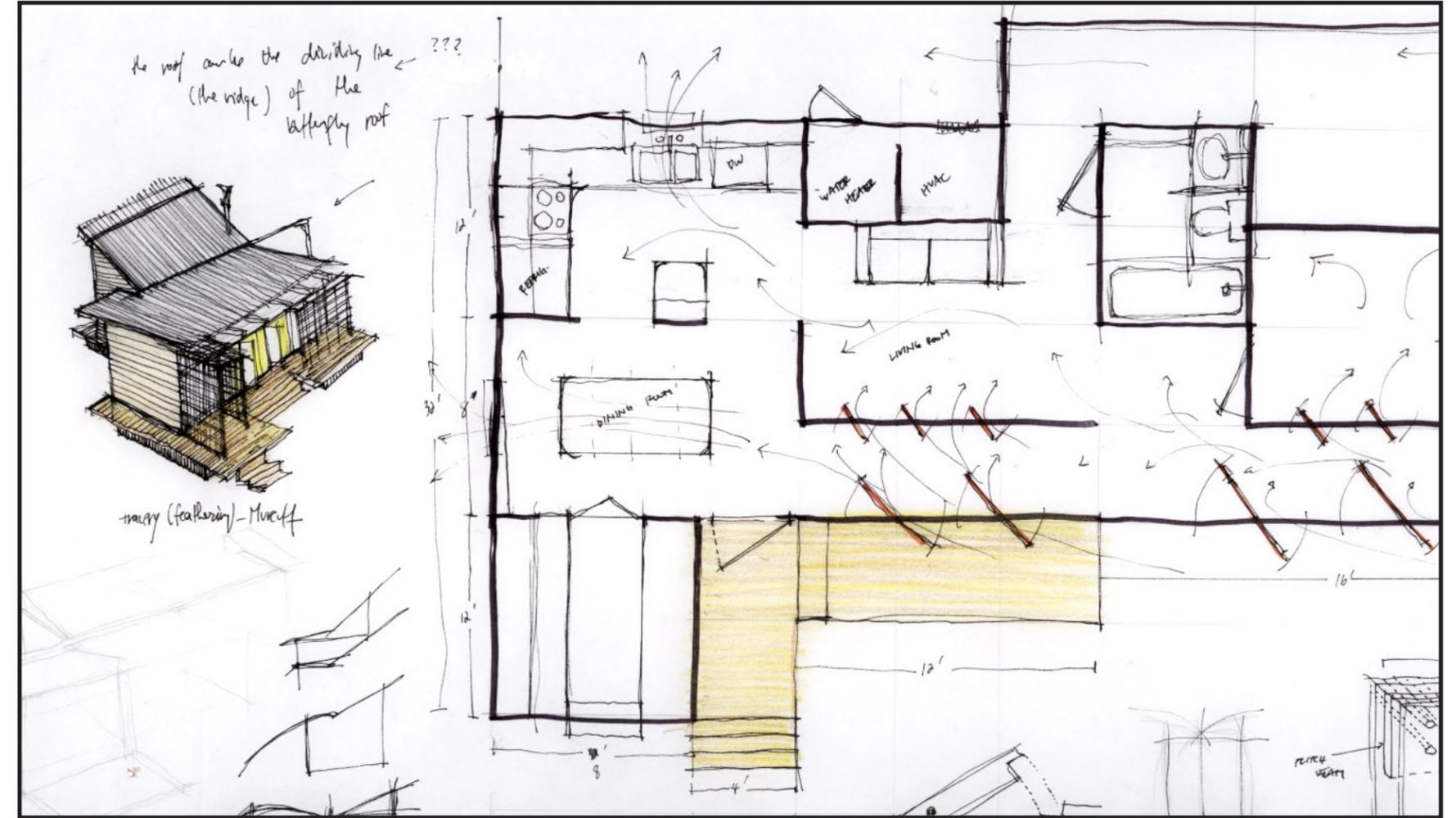


Design sketch of Family Worker Dwelling.
Plan View



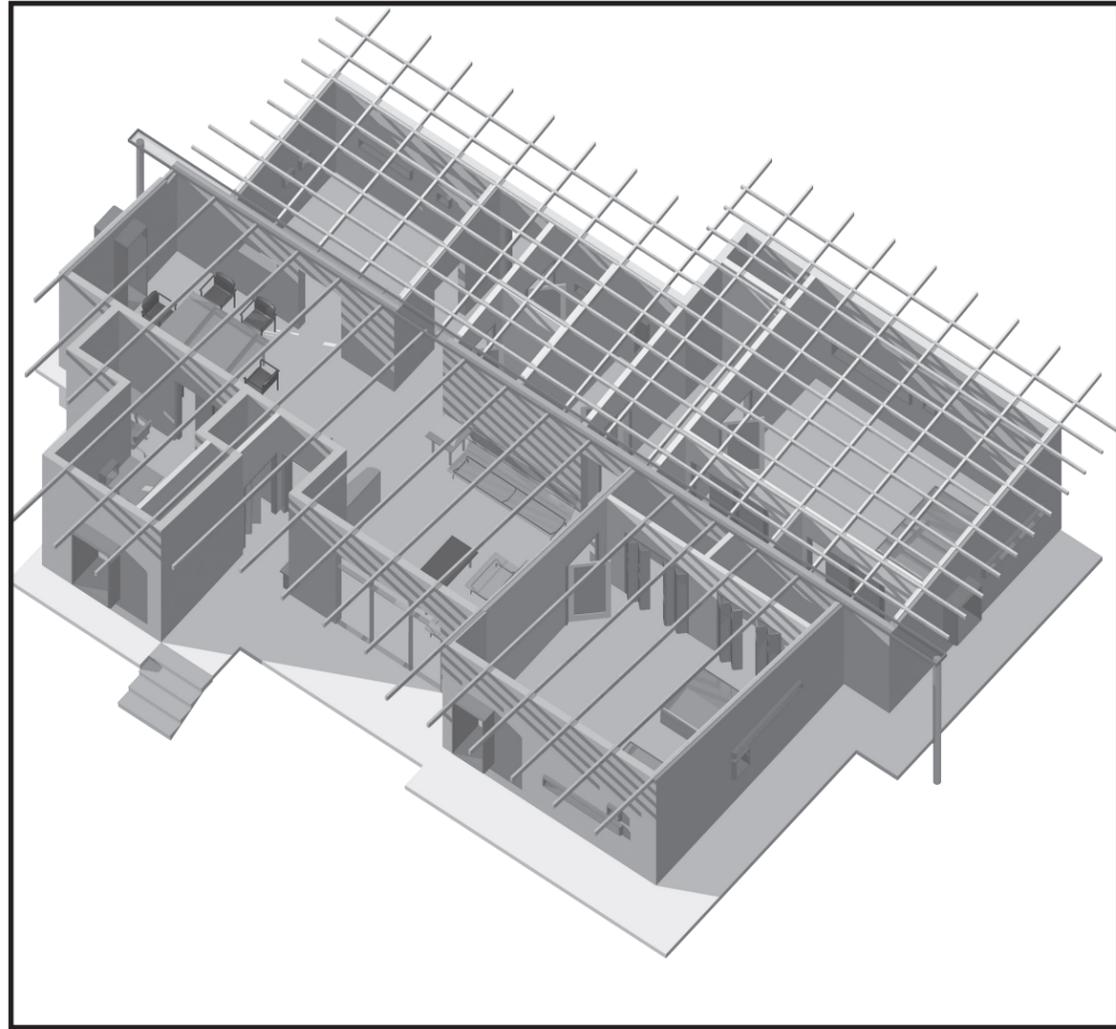
This sketch explores the exterior forms and possible materials for the house. The majority of the exterior material are horizontally oriented wood slats coupled with a grid of square laminated veneered plywood such as FinPly. The box windows become part of the grid structure of these plywood panels. The box frames of the doors and taller windows interrupt the horizontal slats to break up the repetition to give the eyes a break and to balance the design. A concrete central wall and rear wall were part of the original design but were subsequently removed for a simpler and more efficient construction.

Early study sketch of the Family Dwelling.
Perspective View



Another study sketch examining air flow throughout the house with the windows and doors open. Towards the bottom of the drawing, doors that pivot on its central axis are studied to see how they help in airflow from the outside into the interior of the house. Natural ventilation or passive cooling techniques are important in this design to decrease power consumption.

Early study sketch of the Family Dwelling.
Plan View



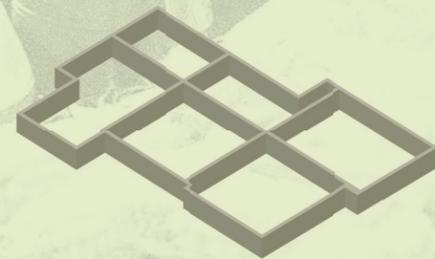
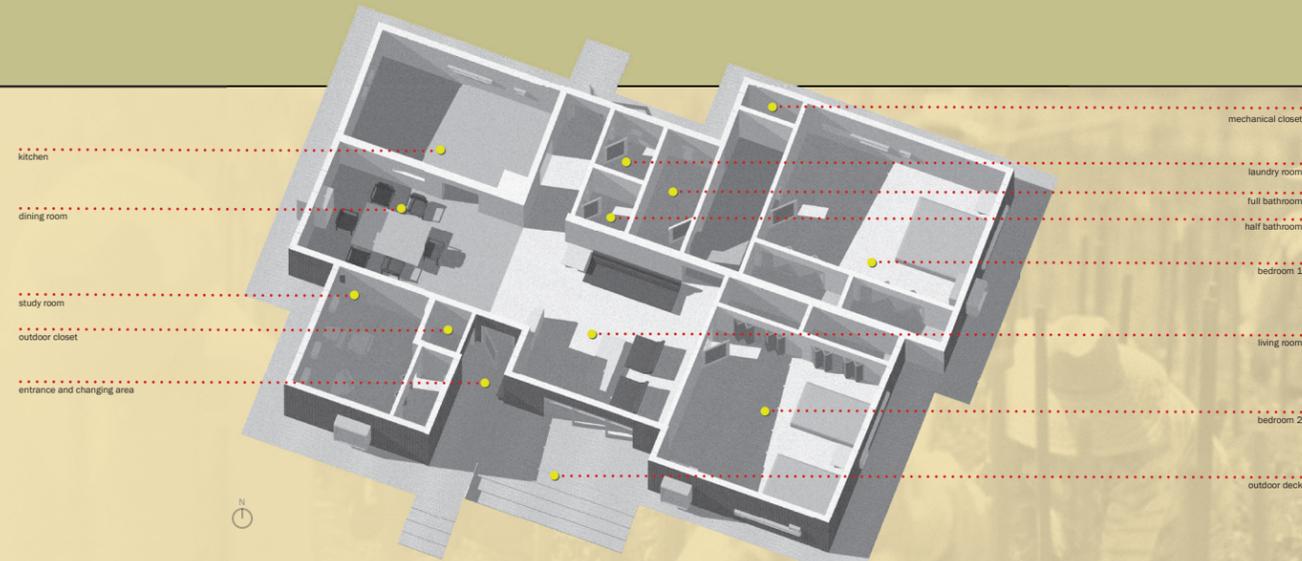
Study drawing of the Family Dwelling showing interior rooms and the roof trusses.

farmworker community: family dwelling

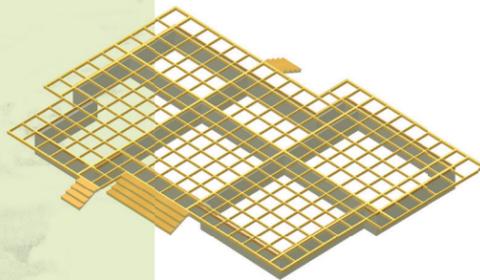
family dwelling:

The design of the family units focuses on providing all the necessary spaces for family living in a more compact footprint. The addition of the small study room is based on research documenting the difficulty of farmworker children finding quiet spaces to study and do their schoolwork, a space normally not available in current farmworker housing or apartments. Another goal of the design is to provide a unique profile to the house with the addition of the butterfly roof, a move away from the more traditional roof and profiles of manufactured homes. Another element which further gives the home a more rooted and permanent stance is the concrete masonry unit foundation and the raised platform deck. The raised wood platform deck elevates the house off the ground level, casting a slight shadow and providing clearance for water runoff from the slight sloping grade. The box windows around the whole house lets in light in a very focused manner while at the same time providing a space to sit in while enjoying the view (larger box windows).

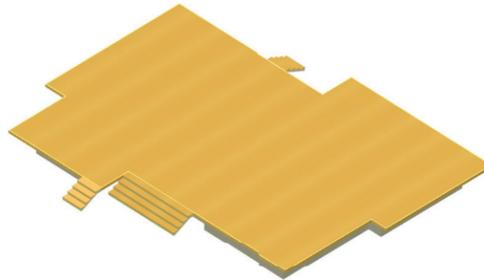
The construction of the houses maximizes the use of readily available and easily constructed materials such as concrete masonry units, corrugated metal roof, SIPS (Structural Insulated Panels), and light timber. This enables the project to remain feasible economically as well as cut down on the number of building tradespeople on site. The materials used also gives a nod to American vernacular rural architecture such as sheds, barns, industrial and utilitarian structures.



Perimeter Foundation: Concrete Masonry Units



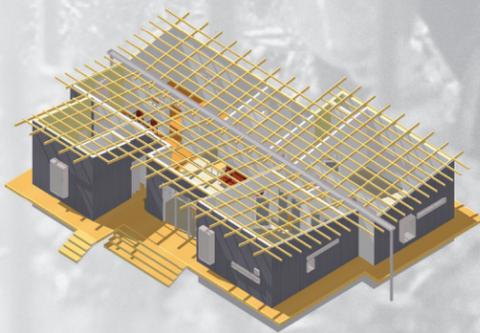
Floor/Deck Supports: Pressure Treated Lumber



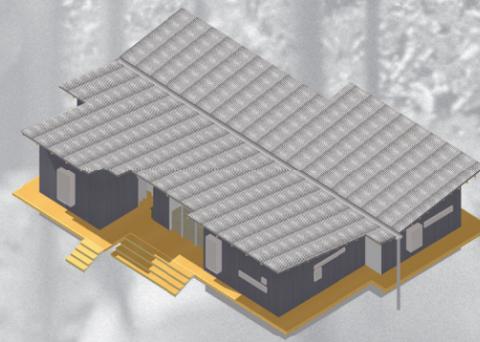
Floor: Pressure Treated Lumber and OSB (Oriented Strand Board) Sheathing for Interior Sub-Floor



Walls: Exterior: SIPS (Structural Insulated Panels) Interiors (Light Timber Framing)



Roof Support: Light Timber Framing



Roof: Corrugated Sheet Metal

Showing the construction sequence with the materials specified. On the top right of the presentation board is a legend showing the rooms of the house.

Final presentation board for the Single Family Dwelling.



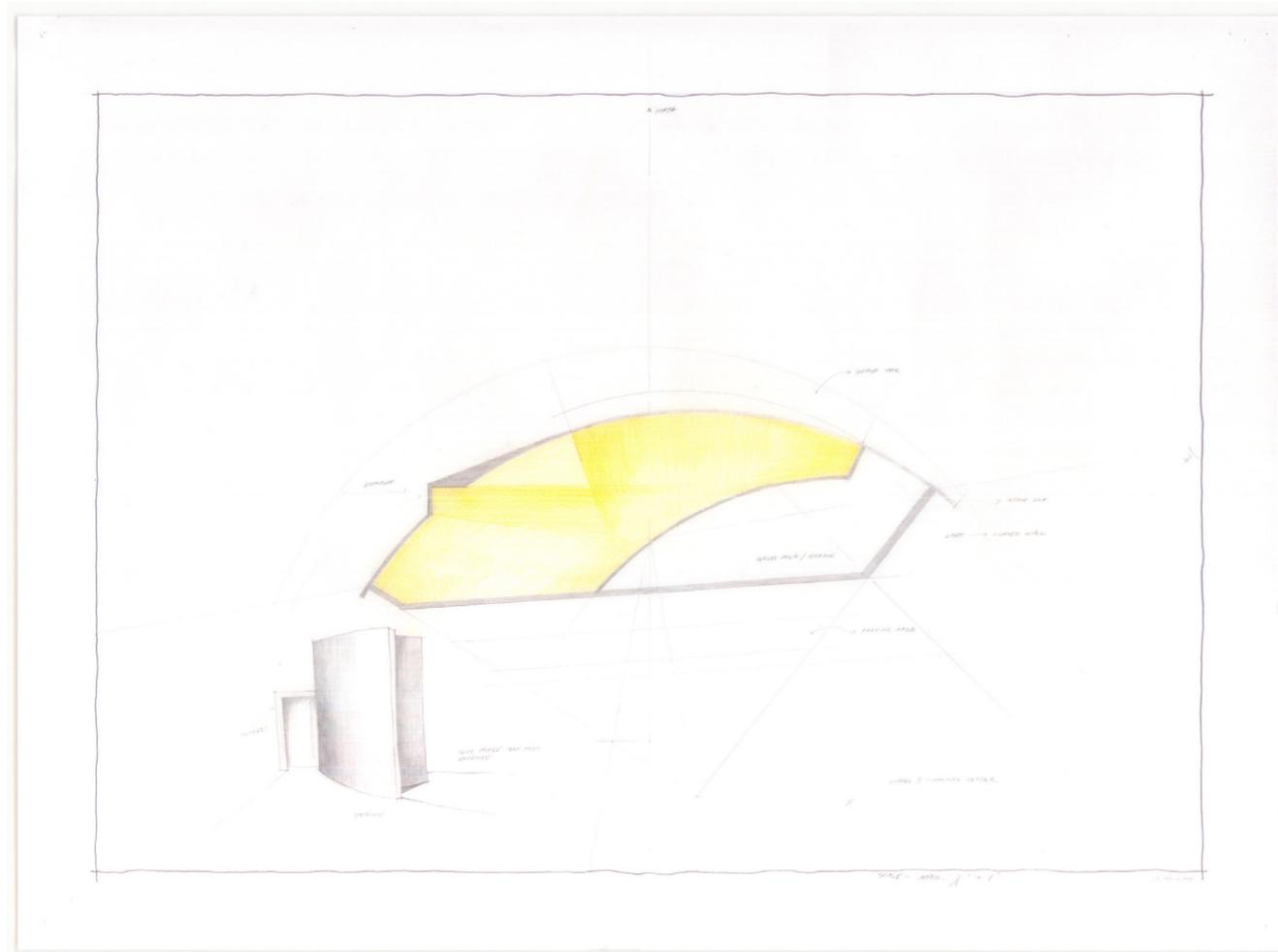
Sketch that inspired the primary form of the chapel design.

THE CHAPEL/COMMUNITY CENTER

The logic for the design of a chapel that also serves as a community center is to have a central structure that can be used as the hub for the farmworker community. The Catholic Church is an important part in the lives of Mexican and Mexican-Americans, and the establishment of a chapel gives a sense of belonging and permanence to a profession accustomed to a migratory existence. It is a place for gathering, spiritual nourishment, education, child care and empowerment. The design inspiration started with readings from Gaston Bachelard's, *The Poetics of Space*, and Gabriel Garcia Marquez's *One Hundred Years of Solitude*, and from these books came the idea of how we attach meanings to places and spaces we inhabit. The idea of a building as a sanctuary, as a protector and nurturer of its inhabitants was the guiding light in the development of the design of the chapel and the initial concept sketch of two hands protecting a farmworker translated into the two curved outer walls enveloping the interior spaces divided by a central wall.

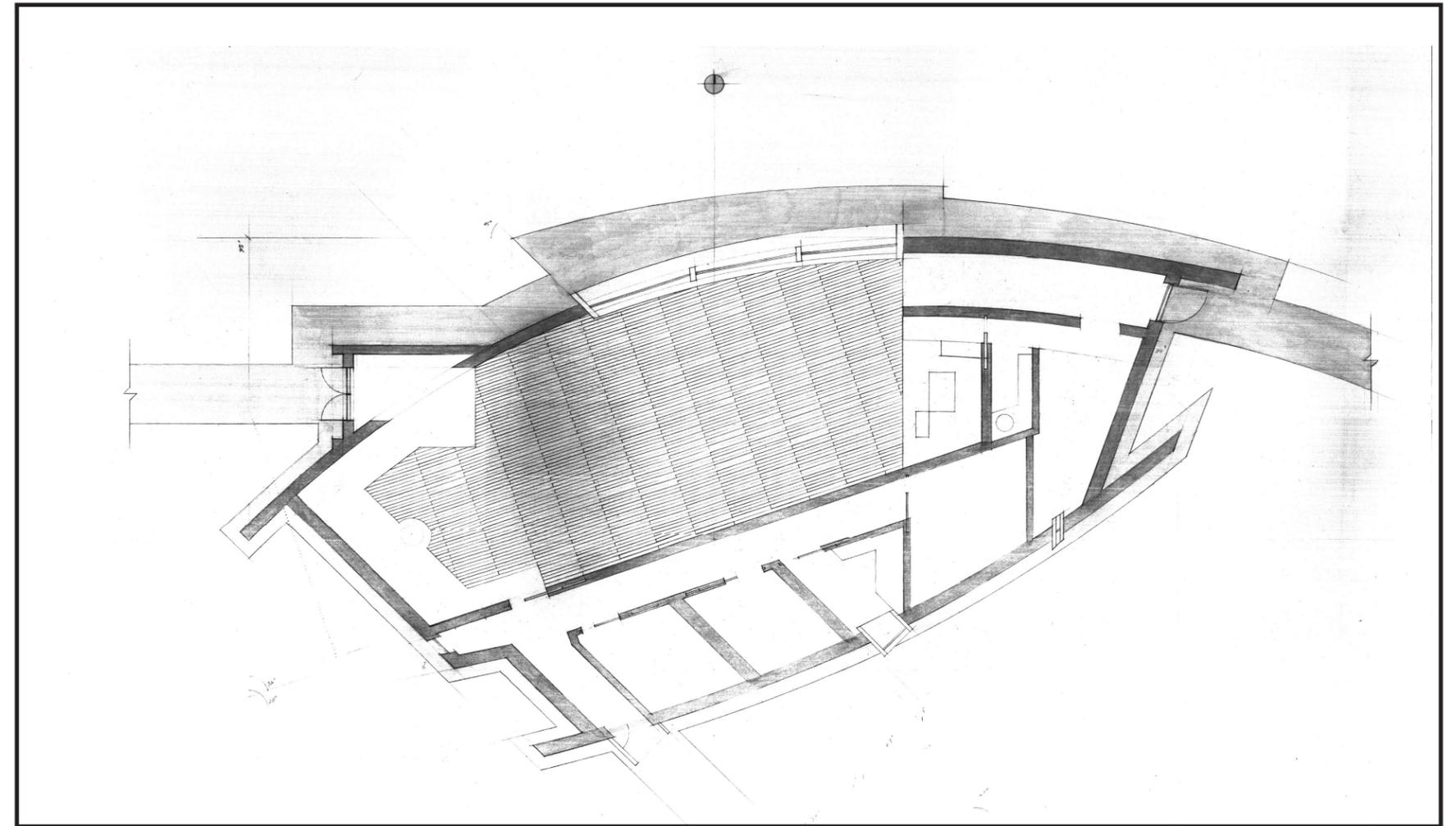
The initial design came from the images of God's hands holding a figure—a farmworker is protected and handled gently. He is protected from the elements, from the harshness of work and life. The symbolism here is of protection as well as of nurturing. The two curved hands become the formal lines of the walls—curved walls on the outside of the chapel. The two curved walls become the buffer from the winds of the elevated hill location.

The sacred spaces of the chapel, sacarium, sacristy, main hall, baptismal font and narthex are clearly separated from the service areas by a high wall running down the interior length of the chapel. The plan is simple and clear with the curvature of the outer northern wall guiding the eye towards the altar. Skylights slicing through the roof, a narrow window running the length of the dividing wall, and a smaller box window lets light into the chapel. Controlling the amount of light coming through to the sacred space is an important consideration as these spaces are more intimate and the quality of light determines the serenity of the sanctuary.



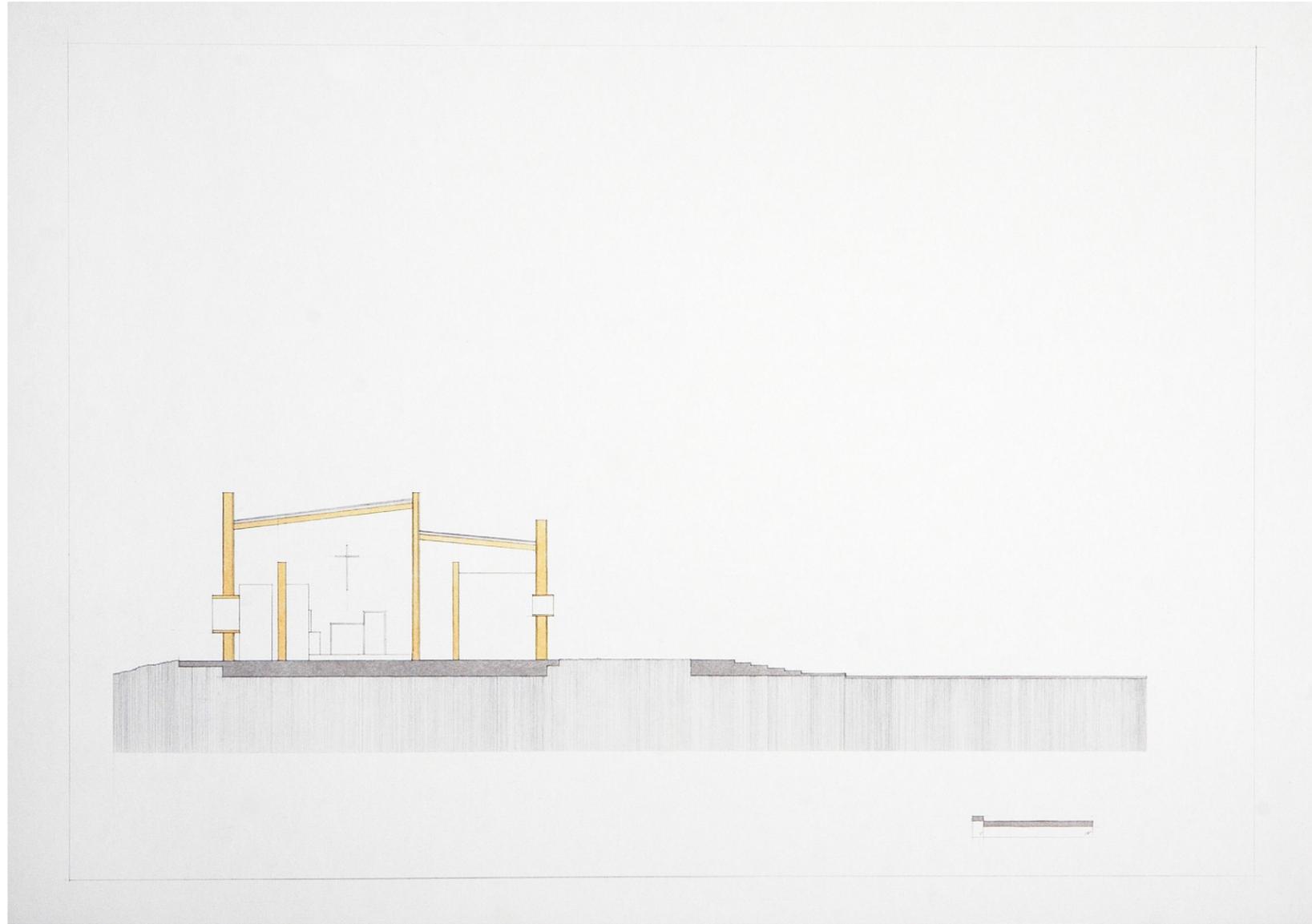
This original drawing only had one curved wall on the front elevation of the chapel. I realized that this initial plan was a little one-dimensional so subsequent drawings added the second curved wall on the rear elevation.

Early study sketch of the chapel.
Plan View.

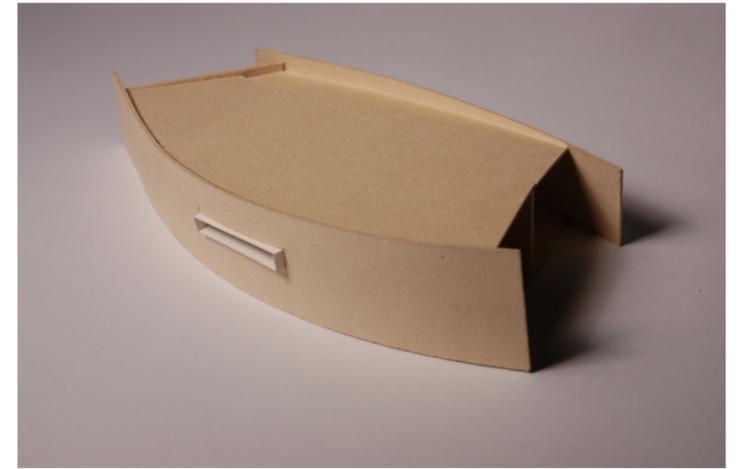
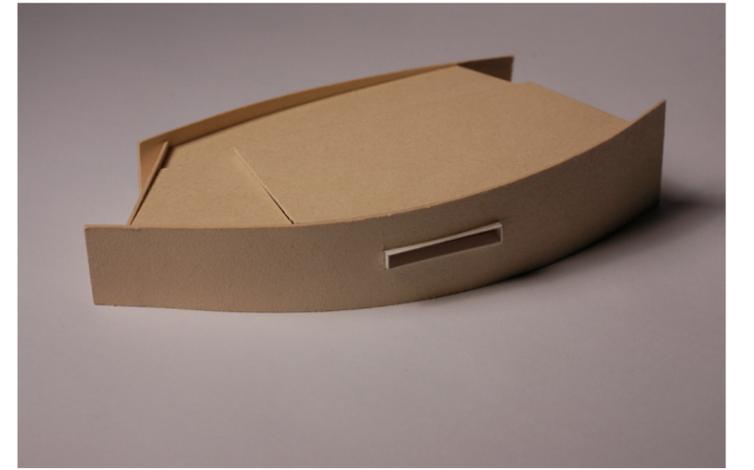
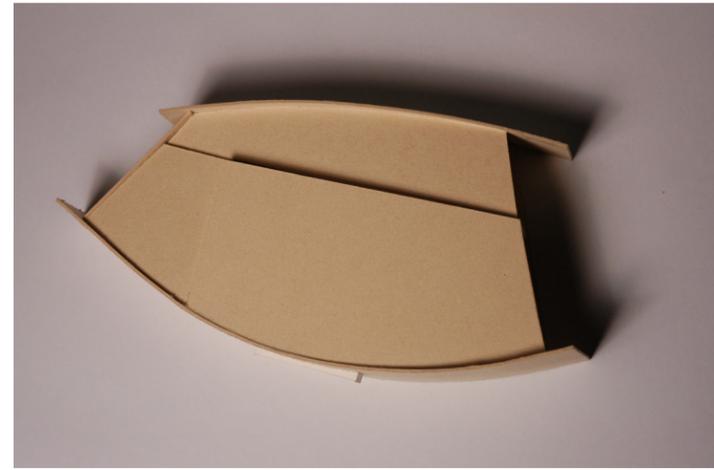


An early plan drawing of the chapel showing the main chapel seating area, altar, entrance, main dividing wall, restrooms, storage and office areas. The pattern for the wood floor in the main seating area is also shown in this plan.

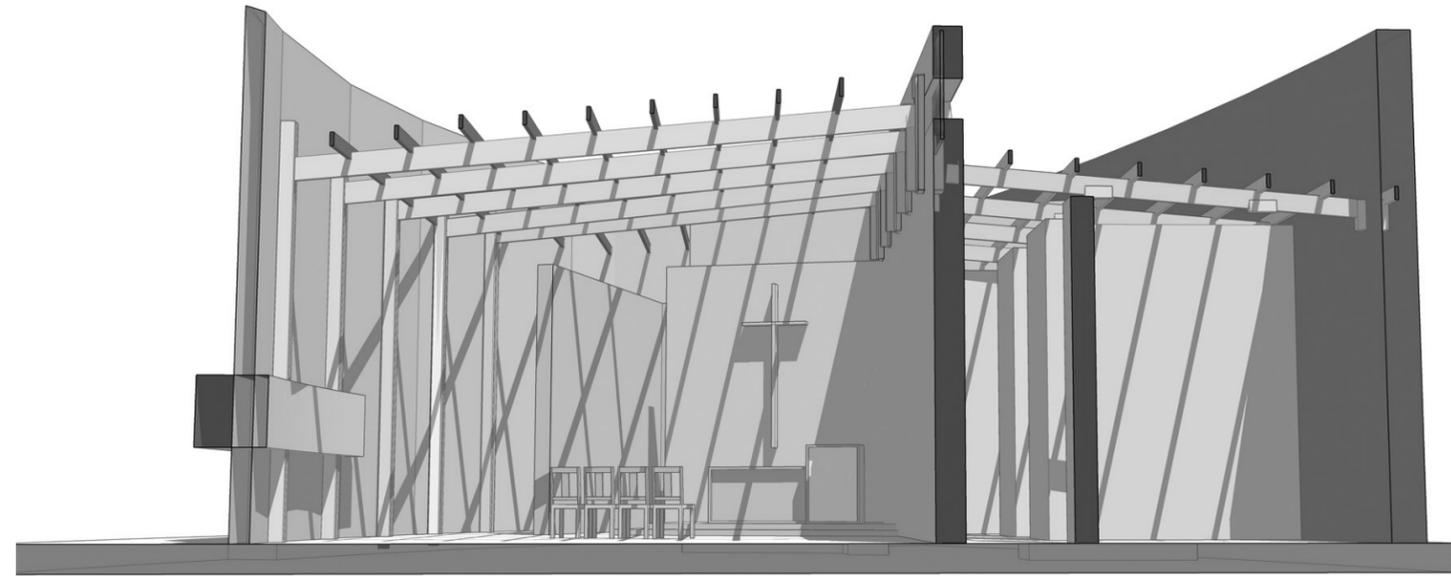
Study drawing of the chapel.
Plan View.
[Top is pointing North]



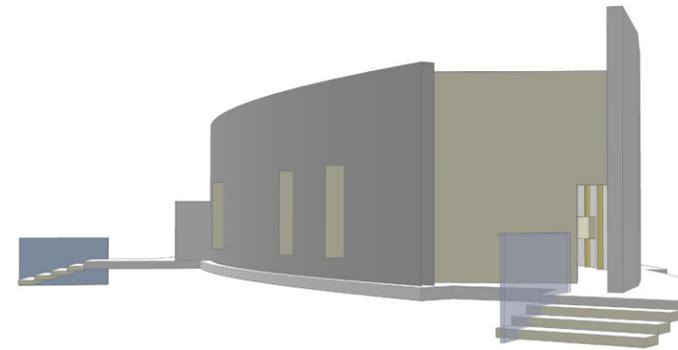
A cross-section drawing facing towards the altar showing the chapel's relationship with the land. This cross-section shows the two main exterior walls and the main dividing central wall. The roof is lower on the right side to allow light to enter through the central wall into the main chapel space to the left.



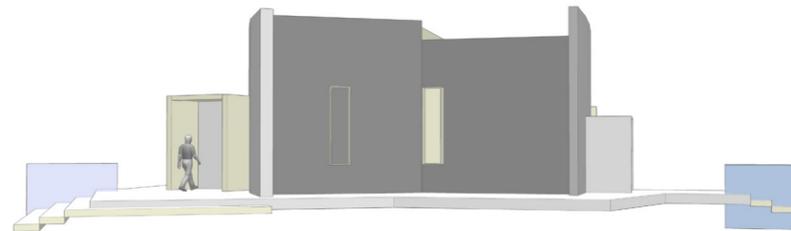
These photos show early design models to study the mass and the relationship of the outer walls to the roof and to the main central dividing wall. Studies show the slicing through the roof or varying the heights of the roof to control how much light comes into the main chapel space and the back wall of the altar.



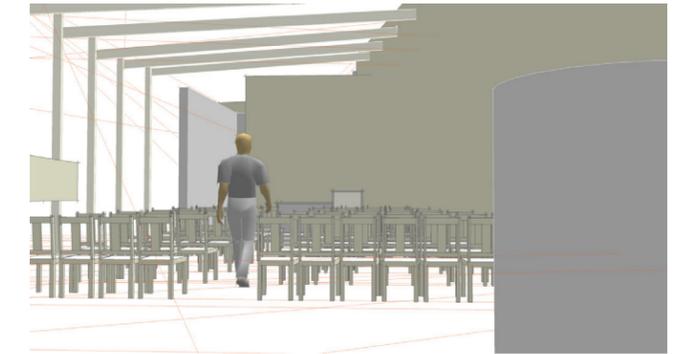
This drawing shows a cross-section of the chapel facing the altar. The beams support the roof—but this drawing do not yet show the roof. On the central dividing wall, windows along the top part will let light into the main chapel space.



Exterior perspective view from the northeast showing the steps and door to the rear of the altar on the right side of this drawing.



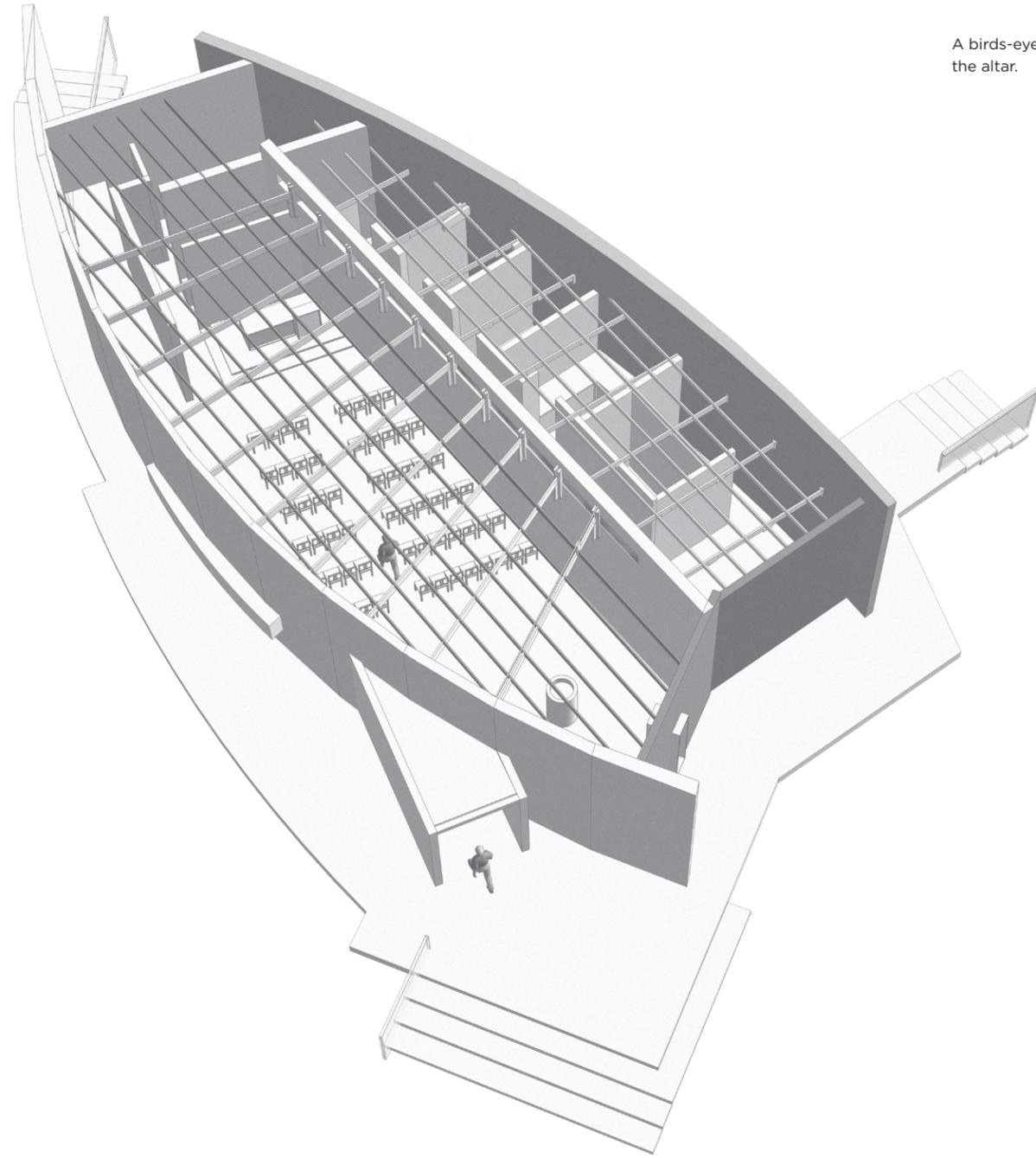
Exterior perspective view from the northwest, showing the steps and main entrance door to the chapel.



Interior perspective view of the chapel facing the altar. A figure walks through the space to show scale.

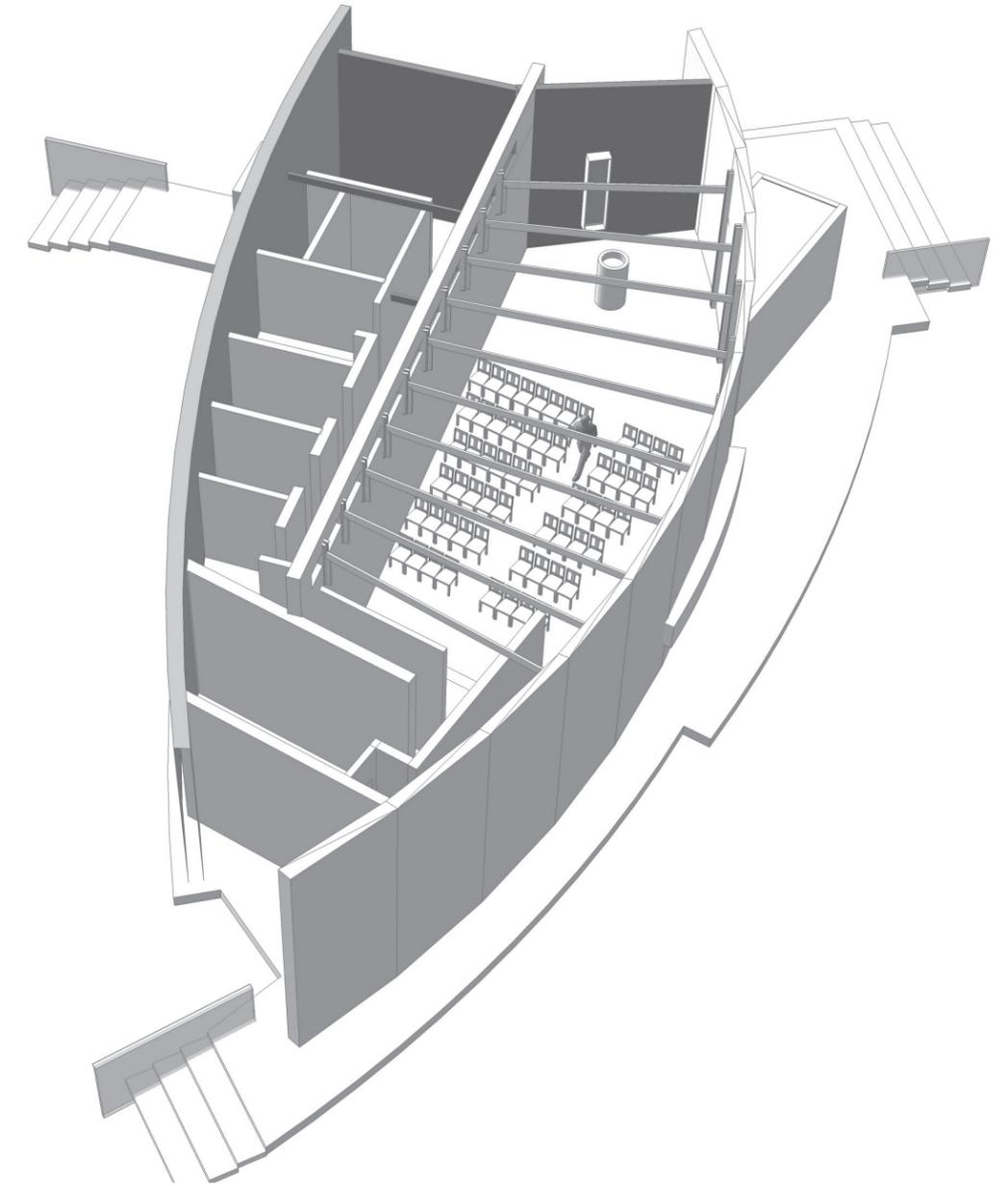


Interior perspective view of the chapel facing the altar. This view shows the beams supporting the roof and how they connect to the walls and the windows on the top of the central wall.

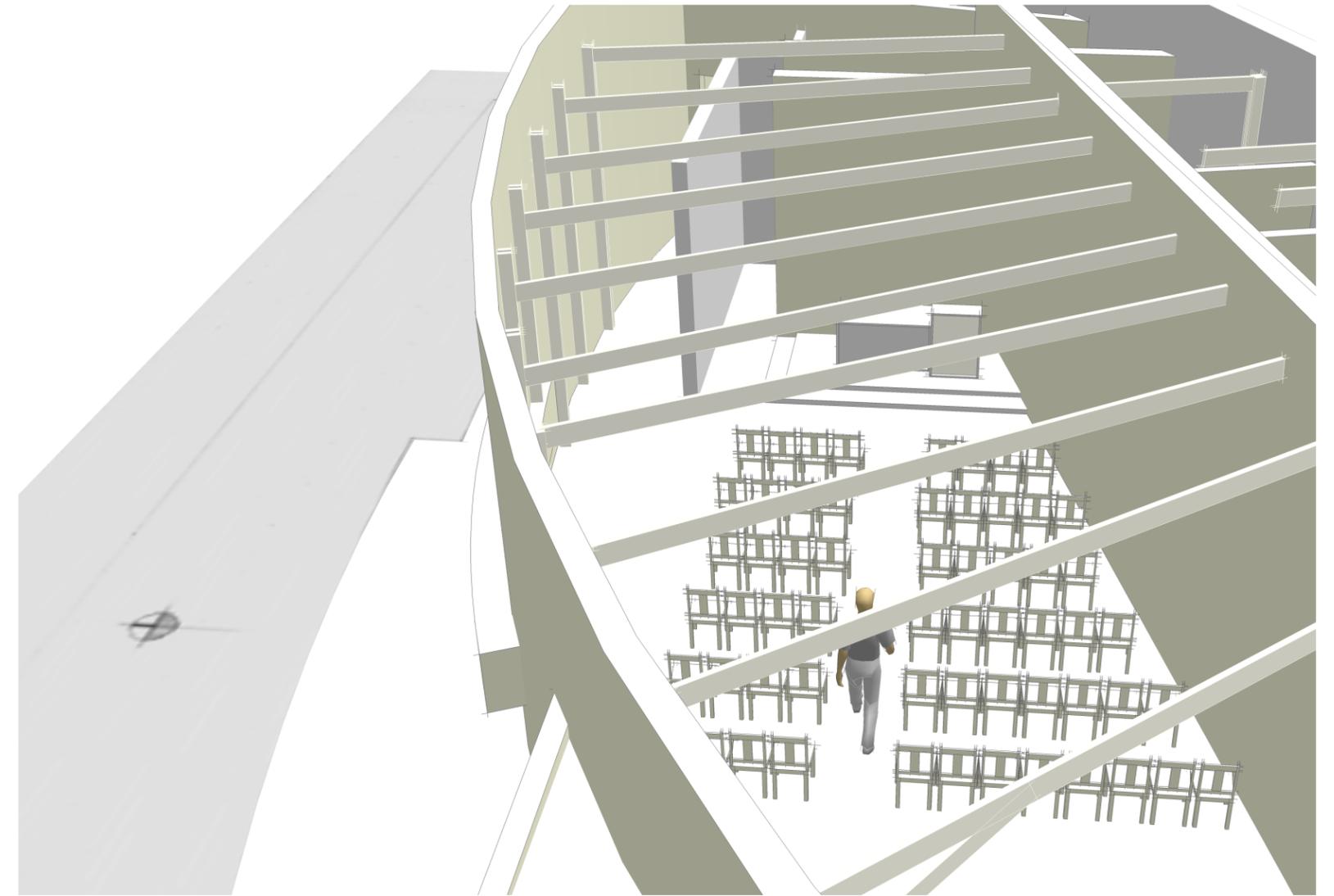
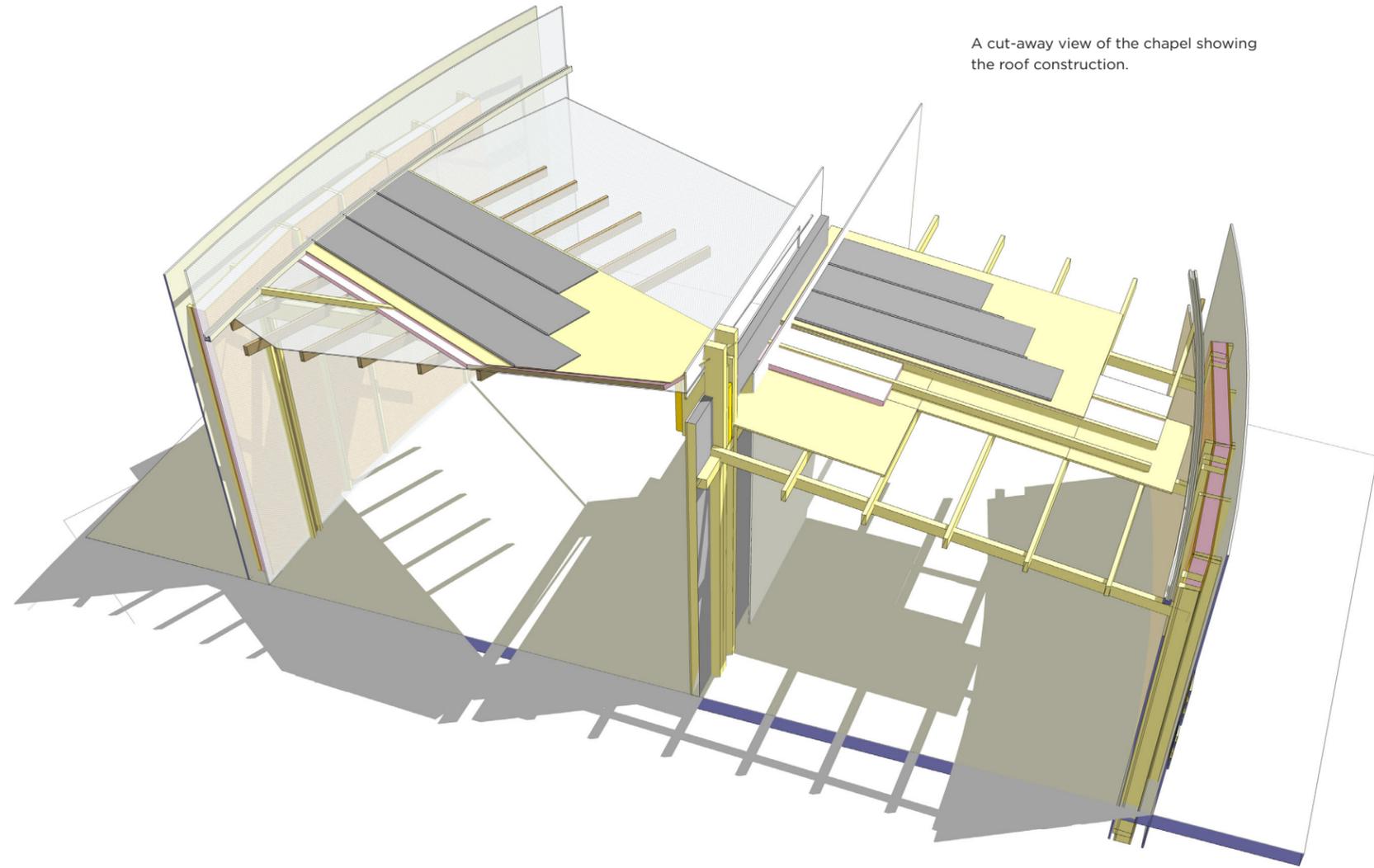


A birds-eye perspective of the entire chapel facing towards the altar.

A birds-eye perspective of the entire chapel facing the rear of the building.



A cut-away view of the chapel showing the roof construction.



Birds-eye view of the interior of the chapel facing towards the altar.

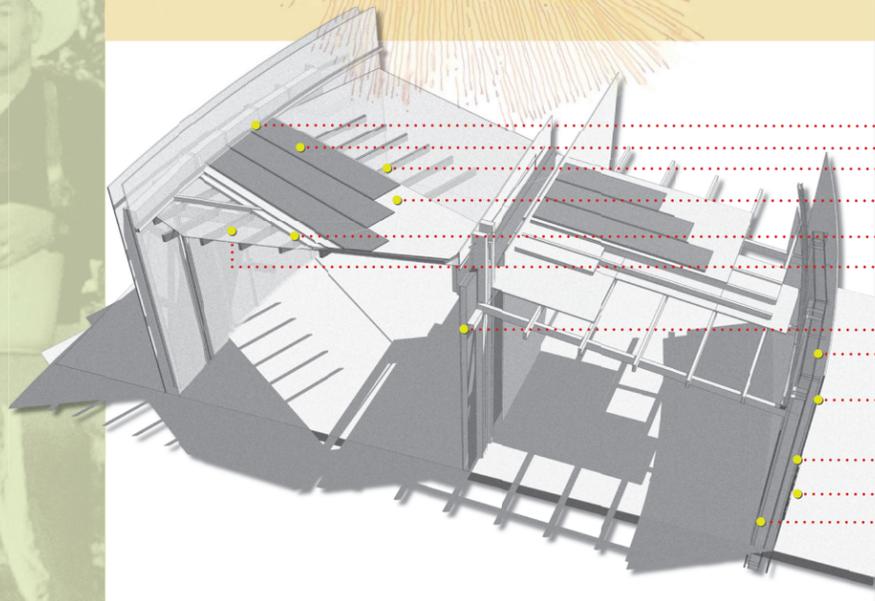
farmworker community: chapel and community center



chapel/community center:

The logic for the design of a chapel that also serves as a community center is to have a central structure that can be used as the hub for the farmworker community. The Catholic church is an important part in the lives of Mexican and Mexican-Americans and the establishment of a chapel gives a sense of belonging and permanence to a profession used to a migratory existence. It is a place for gathering, spiritual nourishment, education, child care and empowerment. The design inspiration started with readings from Gaston Bachelard's "The Poetics of Space", and Gabriel Garcia Marquez's "One Hundred Years of Solitude", and from these books came the idea of how we attach meanings to places and spaces we inhabit. The idea of a building as a sanctuary, as a protector and nurturer of its inhabitants was the guiding light in the development of the design of the chapel and the initial concept sketch of two hands protecting a farmworker translated into the two curved outer walls enveloping the interior spaces divided by a central wall.

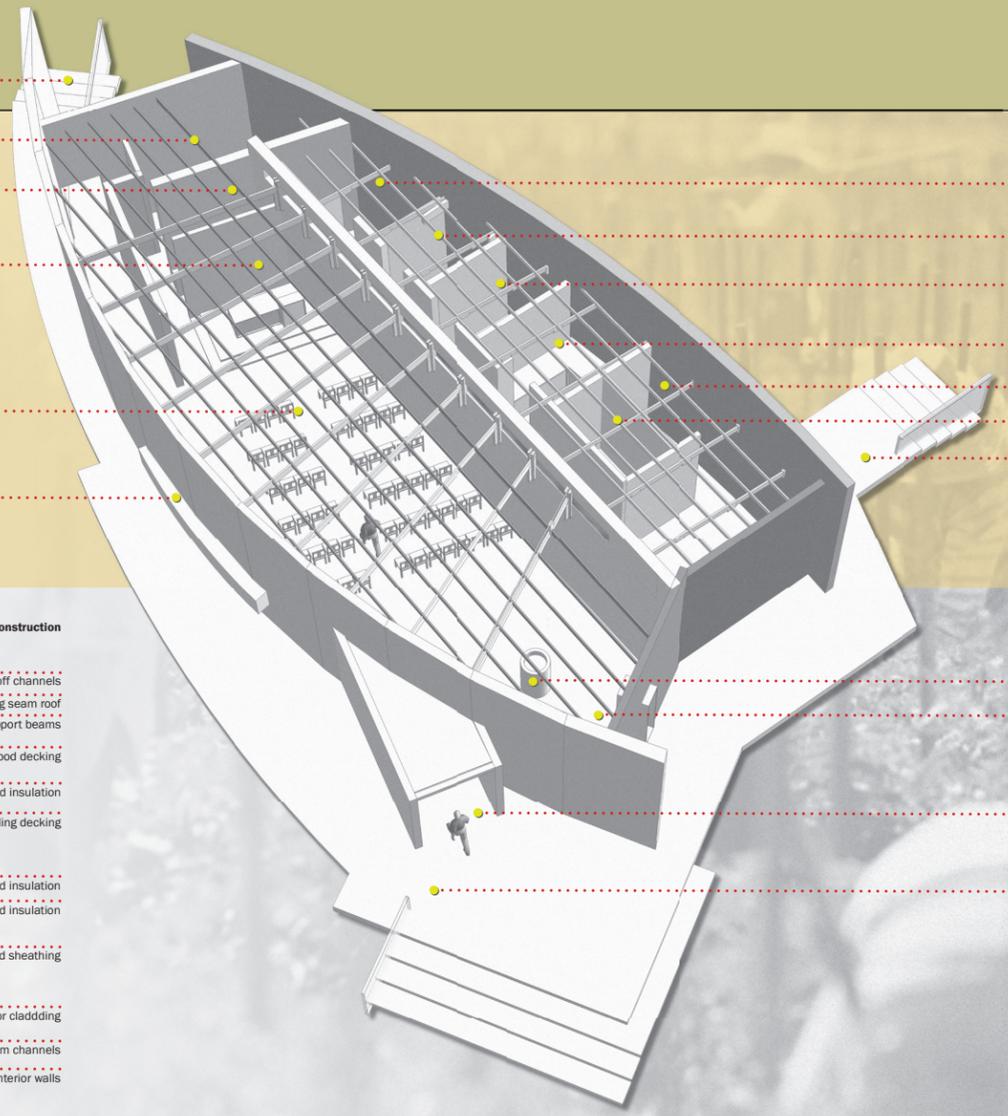
The sacred spaces of the chapel, sacrum, sacristy, main hall, baptismal font and narthex are clearly separated from the service areas by a high wall running down the interior length of the chapel. The plan is simple and clear with the curvature of the outer northern wall guiding the eye towards the altar. Skylights slicing through the roof, a narrow window running the length of the dividing wall, and a smaller box window lets light into the chapel. Controlling the amount of light coming through to the sacred space is an important consideration as these spaces are more intimate and the quality of light determines the serenity of the sanctuary.



- side exit/priest entrance
- sacristy (storage area for sacred vestments, liturgical vessels, as well as a dressing room for priests)
- sacrum (wash area/basin used with holy water)
- altar
- main hall/open area for flexible seating arrangements
- box window

roof and wall construction

- water runoff channels
- standing seam roof
- roof support beams
- marine plywood decking
- rigid board insulation
- fin-ply (veneer laminated plywood) ceiling decking
- sound insulation
- light timber framing with rigid board insulation
- marine plywood sheathing
- bent quartersawn eastern larch wood strips for exterior cladding
- aluminum channels
- fin-ply (veneer laminated plywood) interior walls



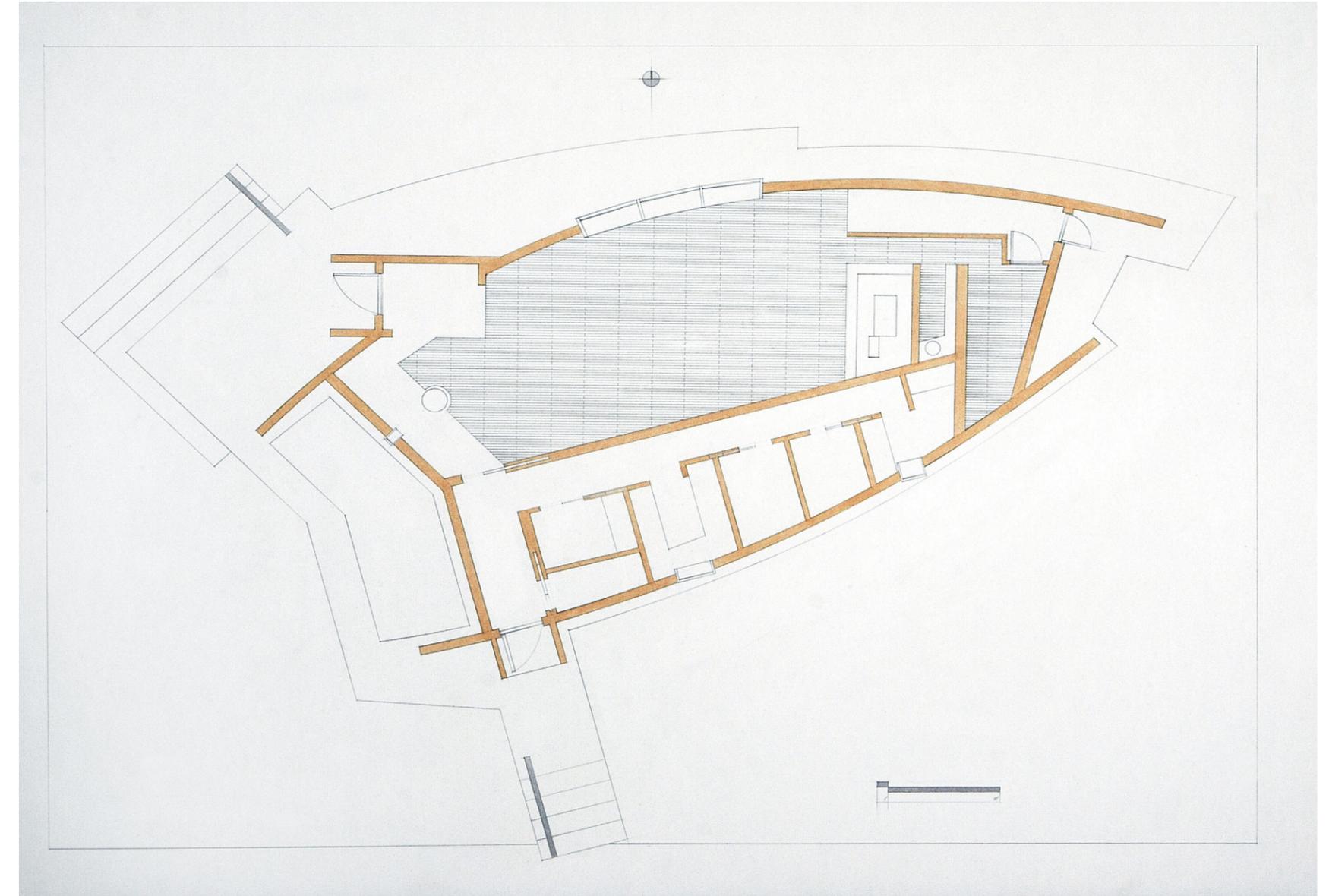
- office
- women's restroom
- women's restroom
- kitchen
- mechanical
- storage
- rear entrance/exit

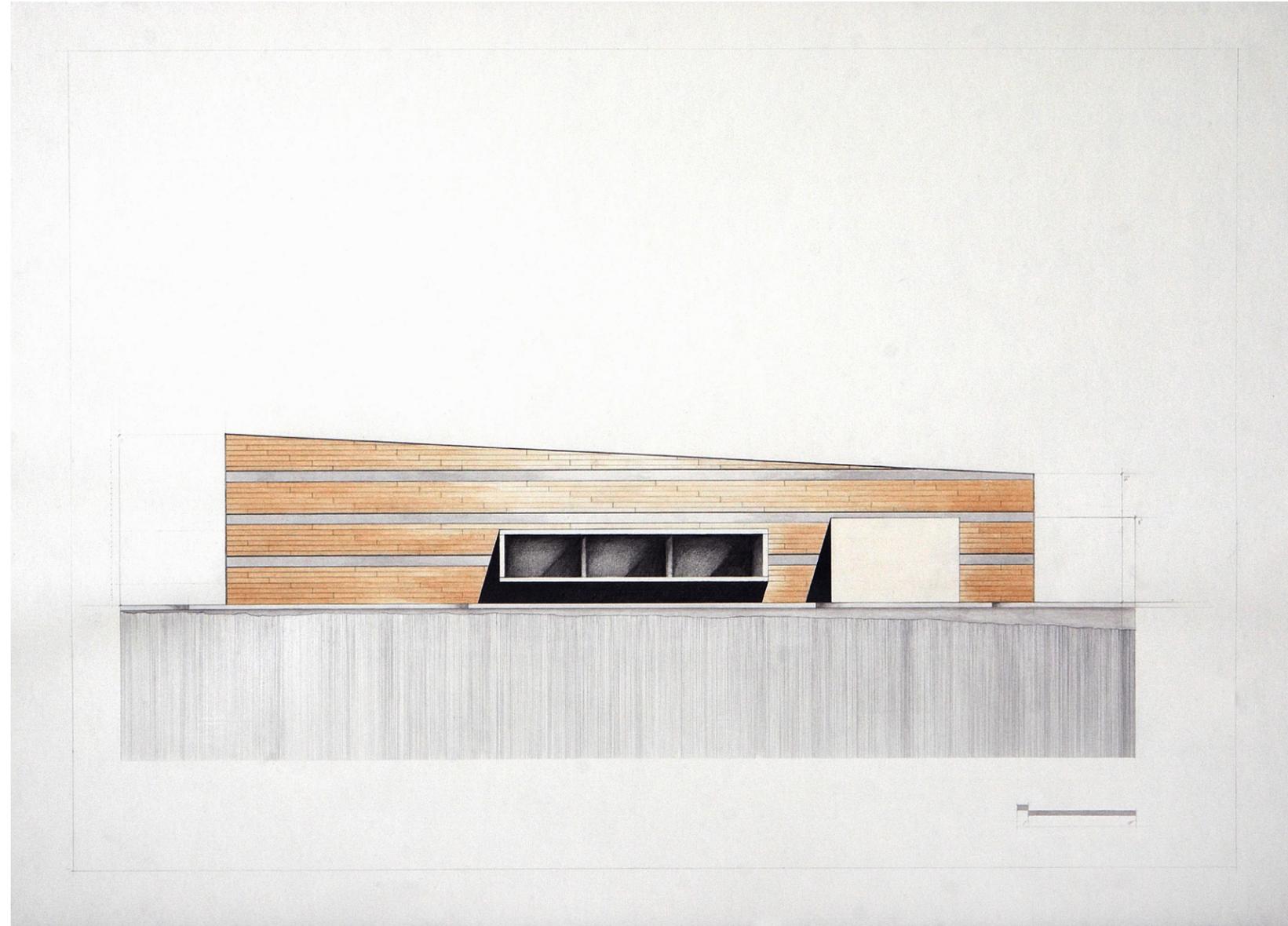
- baptismal font
- narthex
- main entrance/exit
- raised platform

Final presentation board for the chapel/community center showing the materials for the roof construction and a legend for the various spaces in the chapel/community center.

On right page:

The final plan drawing of the chapel. The distinct difference from the early plan drawing is the increase of the space outside the chapel. This "skirt" around the chapel meets the land and is also a space for gathering before and after chapel services and community events. Another progression is the orientation of the interior walls, especially along the southern wall of the building. The walls are now angled more perpendicular to the outer wall instead of being angled drastically. This creates less wasted space especially inside what would have been the acute interior corner of the walls. The pattern and orientation of the wood floor is more organized as it is now oriented perpendicular to the altar wall instead of in an angle.





On left page:

Elevation view of the chapel facing the northern wall. This drawing shows the exterior wall with a channel rustic pattern wood siding of western red cedar with stainless steel panels running the whole length of the exterior wall. The channel rustic pattern provides excellent weather protection and allows for maximum dimensional wood change (breathing) in climates of highly variable moisture levels between seasons. This siding pattern has a 1/2 inch overlap and a 1 inch reveal, that creates a channel effect between siding boards. The box window and the main entrance are clearly shown as main design elements in this drawing.

CONCLUSION

The goal of this thesis is to research, design and study the idea of building a community for migrant farmworkers through an architecture sensitive to the lives, struggles and hopes of this group. By using the simple and honest design of rural vernacular architecture, I hope that I have presented a body of work that shows respect for the land, sensitivity to migrant farmworkers and their families, and a formal design solution that elevates their experiences and hopes for the future. More importantly, I believe that, through the designs presented here, the housing and chapel become vibrant places for living, worshipping and gathering. Building a community and creating spaces for these workers to thrive and grow is critical for individuals, families and their children. Our homes and places of worship help us develop strong bonds and nurture the next generation. The hopes and dreams, the stories and struggles of migrant farmworkers add yet another chapter to the continuing narrative of America. I believe that the quality of the spaces where these stories unfold will help make that narrative richer, as well as full of hope and promise for the future.

The beginning of a thesis poses many questions, yet these questions were met with a sense of excitement at the infinite possibilities and solutions I began to uncover through my research. The process of researching, drawing and building models centered my ideas further and the conclusion of a thesis has become an affirmation in the power of research, dialogue, critiques and ultimately in “doing” what is necessary to create a body of work that has substance and focus. Presenting our work and subjecting ourselves to the humbling, but ultimately enriching experience of critiques from our committee, trains our eyes and our hands. It also sharpens our abilities of analytical and critical thinking, in addition to developing the skills to confidently present and defend our ideas and work. These are all valuable lessons to take with us forward in our design careers and in our lives. The time we take to concentrate on our thesis is when the ideals of architecture are real, exciting and lucid. Our thesis tenure is a time we must celebrate and embrace, because it is in this time that we begin forming our design and ethical ideas of architecture that we will develop throughout our careers as designers.

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DEDICATION

Sincere gratitude to my committee members, Professor Bill Galloway, James Jones and Hans Christian Rott for their guidance, critiques and their valuable teachings. I keep many of your lessons with me as I go forward in my design career and in my life.

I also thank the close friends and colleagues at Virginia Tech who have helped me along the way and with whom I have shared wonderful experiences learning about architecture and life. The long nights and days in studio working and learning were memories I will always hold dear.

To my close friends, Dan and Jeff, who have supported me in numerous ways. I will always treasure your support and helping me find the humor in life and the strength to keep plugging away.

Eternal gratitude to my loving parents, Rodger and Dorothy, my lovely sisters, Herry, Tricia, Peachy and Hercy and my extended family, Wendy and Abe, Del and Leslie, and all my brothers-in-law. Your steady guidance and support meant the world to me. I could not have done it without you. To all my nieces and nephews whose youth and promise reminds me always to try and make the world a better place for the next generation. You are all constant reminders that with the love of family and hard work, great things are possible.

And to my wife, Kristin, my deepest gratitude. Along with the grace of God, you are the sunshine that lights my path always. Your support, guidance, humor and love made it possible for me to finish this thesis. I can not thank you enough. To you, my love always.

