SHIDELER RESIDENCE
LIVING ROOM PERSPECTIVE
DESIGN PHASE THREE

Upon completion of our second designs, we submitted them to the Shidelers for review. A few days later, red comments filled the phase two design packets of each team indicating the likes and dislikes of the Shidelers. Each studio member anxiously thumbed through the packets to see what elements would remain and what would be lost. After flipping through the packets for a while the next step would be to work as a group combining, to the best of our abilities, all of their likes.

Fourteen architecture students sat around the table each having their own ideas, followed by the ideas that they had as a group and now would try to formulate yet another solution based on the clients wants. Some elements would easily be agreed upon while others started heated debates of what the best solution would be. Trash paper was sprawled across the table as we hashed out ideas in the group setting. Through long hours of debate and redebate a final plan began to emerge. When it was finally over each group could see part of their designs with in the solution. I was happy because the idea of the angle cutting through the house creating an atrium space for passive solar gain made it into the final design.
DESIGN PHASE THREE CONCEPT

The concept was to create a new dynamic within the barn in the form of a new geometry skewed from the existing grid of the barn. An angle would slice through the first floor creating an atrium that would house the vertical circulation and collect passive solar heat. The kitchen and upper loft would also be rotated on this geometry while the other rooms remained on the grid of the existing barn. Outside the decks would be rotated revealing the new angles within the barn.

The inside would remain as open and airy as possible, like it was when it was a barn, revealing its original structure. Spaces would flow into one another from one level to the next, being defined by the original structure. Throughout the entire structure the duality between the old and the new revitalize this structure in an exciting manner realizing the rich history of the barn coupled with its new function.
DESIGN PHASE THREE SOLUTION

The final solution settled on an upper North entry with an airlock, onto the first floor. After entering the home the angled wall that cuts open the floor for the atrium appears directly ahead. Looking through the switch back of an all walnut stair that ascends in the atrium space one can see the pond glistening in the sun. The center of the barn is open to the rafters and is the formal dinning room. One side of the space is defined by the original structure and a ladder pegged between the giant walnut timbers. The South-West corner is the living room containing a plethora of windows allowing for the spectacular view of the pond. To the North of the living room is the kitchen skewed to match the atrium angle. Above this kitchen is a loft which creates a lower kitchen ceiling. The North-West corner of the home contains a cozy breakfast nook with a North view. The ceiling in this space is open to the rafters and railings of the upper loft. The rest of the North side contains the hall way and other services such as closets and the laundry room. The East side of the barn is dedicated to the master suite containing the master bedroom, bath and closet. A small bathroom is also located between the entry and master suite. On the South-East corner is the study, accessed by the master bedroom and a bridge that spans across the atrium.

Walking up the walnut stairs through the open atrium, the stairs arrive at a landing accessing Tj's bedroom and a spare bedroom. The landing provides views down into the dinning room and kitchen. The loft and hallway to the loft are both rotated on the new geometry. To get to the loft a low, narrow hallway is taken that then transitions into the open loft space.

On each side of the two bedrooms are rooms created by dormers. The South dormer contains the upper bathroom with two windows for light and ventilation. The South dormer is a craft room with three windows creating a magnificent view of the pond.

The East side of the basement contains a two stall garage and an entry into the atrium. A bathroom is just off of the atrium for washing up after being outdoors. A recreation room is designated for the South-West corner but will not be finished at this time.

After completion of the design the plans and elevations were drawn on Auto Cad by Aaron Haschel. The final design was given back to the Shidelers for a final review in order to decide if the project would be built or not. Also included is the color schemes of the exterior metal siding for the Shidelers to choose from.
THE DECISION

POPO!, POPO!, POPO!, echoed through the studio on November 2, 1994 as the champagne bottles were opened signifying that the project was approved by the Shidlers for construction thus, making our studio the first in Bali States history to design and build a home for a private client. We now could begin to focus on starting construction. We would begin to work on the site every Monday, Wednesday and Friday until the end of the year, to realize our final design in a 1"=1" model.
CONSTRUCTION PHASE

The following is a log of events that happened throughout the construction phase.

November 2, 1994.
The project is approved by the Shidelers.

November 4
We began to remove junk stored in the barn.

November 7-11, (week 1)
The barn was full of old junk from every era imaginable. We removed everything from the first floor and had Muncie Mission take what ever they could. The lower level was full of sheep crap, a couple of feet in most spots that along with the rest of the accumulated wood needed to be removed. The wood siding was ripped off exposing the skeletal framework of the barn. All of the floor boards were also pride up out of place and removed. Finally, we began to rip off the roof.

November 14-18 (week 2)
The roof demolition continued which consisted of tearing off a metal roof, asphalt shingles and wood shakes to get down to the rafters. As the roof demolition continued the dormers were located and the North dormer floor was constructed. Rafter extensions were then put on for the extra over hang. The dormer rafters were constructed and finally the roof sheathing began.
November 21-25 (week 3)
During this week we continued to nail roof sheathing up under high winds. The nailing was terrible because of the hard wood which caused the nails to bend.

November 22-27 Thanksgiving Break.

November 28-December 2 (week 4)
The shingles were delivered along with the facia boards. The South side of the barn began to be shingled.

On the first floor, after the old floor had been removed it was discovered that the barn floor was not even close to level, it actually sagged about 7" in the middle. Therefore, a new floor would have to be built. New floor beams were secured on top of the old beams to nail the floor joist to. The subfloor was also put on to get ready for framing.

The basement by this point had been cleared of the sheep crap, thanks to the help of a front end loader. The basement slab was broke up using a jack hammer in order to be removed. Eventually the basement had to be dug much deeper to allow for head room.

December 5-9 (week 5)
The flooring began in full force this week as the joist were put in across the entire barn. A wrecking crew worked just ahead of the framers removing the rest of the old floor and rafters. Subfloor followed close behind giving an all new look to the barn. Special details and cuts were needed in the floors to allow the existing structure to penetrate through it. The floor angle and stair was also determined this week.
December 12-16 (week 6)
As subfloor continued to be laid the construction of walls began. Walls were framed up and clad in blue board at a fast rate to enclose the structure. Large walls were built on the floor and then hoisted around the existing structure and into place. The roof was worked on a little as weather permitted in an attempt to finish it as quick as possible. In the basement demolition continued.

December 19 - Christmas Break (week 7, 8, 9)

January 1-8
Colorado skiing with two Barnitecture members Troy and Woody.

January 9-13 (week 10)
The weather is warm! This week we finished up the South roof and hung facia, drip edge and tar papered the rest of the roof. The North side of the roof was shingled in one afternoon with five people.
The second floor joist were also located and put in place this week. A small amount of subfloor was put on the second floor.

January 16-20 (week 11)
The second floor subfloor was finished and the exterior walls to the ridge were started. The North and South Dormers were also framed in. The first floor to second floor stair was completed, built using the old walnut joists.
January 23-27 (week 12)
This week the second floor exterior walls were continued to be built while rigid insulation was also being applied. Rigid insulation was hard to put up due to the height of the barn and difficulty in moving scaffolding.
Small interior walls were built on the second level each requiring special attention especially any that were framed to the roof. Each stud was a different length in every wall due to the variation in the roof.

January 30-February 3 (week 13)
During this week the final blue rigid insulation was put on the outside of the barn, inclosing the entire structure for the first time. The large interior second floor walls were then laid out and framed up.

February 6-10 (week 14)
During this week wood scabs were screwed into the rafters to create a larger air space for blown insulation. While the scabs were being put up rigid insulation was cut to fit in between each rafter. Finally, car siding was started on the ceilings after the rigid insulation was up.

February 13-17 (week 15)
Excavation began on the East side of the barn in order to prepare for new form work. The East basement wall was also being cut to allow for the garage openings. The insulation of the walls were started this week and completed by Troy, Woody and I in about two and a half days.
February 20-24 (week 16)
The upper dormer ceilings were finished this week, placing on scabs and rigid insulation. In the basement work continued on the East wall. After the openings were cut through the basement stone wall, form work was made for a new foundation. The forms were tricky, allowing for column footings, finished garage floor entry and various other things.

Feb. 27-March 3 (week 17)
The garage wall footings were successfully poured this week with one form work blowout problem. Upstairs the car siding continued to be put up in Tj's bedroom and the North side.

March 4-12 (week 18)
Spring Break in Key West, Fl.

March 13-17 (week 19)
The basement became the focus this week with excavation being done by outside helper Menno, an Amish man, who removed around 18" of dirt with a Bobcat. The rest of us created forms for column footings and additional wall footings. The wall footings were over braced to eliminate the problem of blowouts.

March 20-24 (week 20)
Menno continues to excavate the basement. Later that week he discovered that he dug a little to deep and begins to infill with bricks from the old home. The rest of the column footings were poured this week along with the additional footing walls. The rest of the lower level exterior walls were then framed up.
March 27-31 (week 21)
This week the gravel back fill for the basement was put into place. The drainage pipe for the East wall was also put in place and buried. Later that week the gravel basement was compacted and ready to be poured. On Friday, with the help of Jeannie Kienle's father and uncle, the two levels of the basement floor were poured. The concrete had accelerators in it to speed the drying process. By the end of the day the floor had been poured and smoothed by hand and machinery.

April 3-7 (week 22)
This week the entire basement was framed. Outside, exterior wood furring for the siding was started. Furring strips were put up around every window and horizontally striped across the barn every two feet. The basement to first floor stair was also begun. Friday we experience a power failure as the result of Larry, our hired excavator, who accidentally knocked over the power feed line.

April 10-14 (week 23)
The lower stair was finished this week making the connection between all of the floors. Outside all of the furring strips were completed. The South side was excavated for a brick footing. Other forms for shear walls and wall footings on the West side were framed up.

April 17-21 (week 24)
Doors and windows arrive and are installed this week. Plumbing was simultaneously being installed.
April 24-28 (week 25)
This week the South side brick footing, West side footings and shear walls were all poured. Drywall is brought to site and installation is began.

April 31- May 8 (week 26)
This week drywall continued to be hung along with a clean up effort. Final presentations of the barn take place on Friday for faculty and students.

May 6, 1995- Graduation.
REFLECTIONS.

The Barnitecture experience was one of the best learning experiences I had at Ball State. During school we have learned about construction from books and in classes but never had the opportunity for much hands on experience. This project allowed our studio to experience the entire process that architects, contractors and clients go through during a project. Throughout the entire experience our studio for the first time realized how our designs became a reality. We learned about a variety of products, ordering, sizing and how to follow our own blueprints.

Simply being involved with construction in a hands on manner I now feel much more confident to do my own projects in the future. The Barnitecture studio provided an incredibly valuable experience preparing us as architects for construction administration or design build. We were able to interact with clients, design for them and actually completed the project our selves. Computers can easily be learned in any office but gaining hands on experience is a valuable asset to my education at this time in my life before I begin working full time.

REFLECTIONS FOR CHANGE.

SEQUENCING.

For the most part our studio ran fine but we needed to implement a better form of sequencing from obtaining materials to who was doing what each week. Throughout the course of the project without keeping track or assigning each person work, the distribution of work was not equal. Also, in certain instances the construction time on items took tremendously longer than they should have. With proper sequencing and distribution of work we could have better concentrated people on what they could accomplish, maintaining a higher level of output.

MATERIALS.

Along with sequencing, the ordering of materials caused some problems. Regular meetings should have been established where we could all sit down and plan for what we needed to have delivered that week. Often we where short on materials causing delays in construction. Another problem was that an account at a lumber yard was never set up therefore, we always needed to find Mr. Shideler and rely on him getting the materials. This created yet another delay in the process which leads to the next topic.
CLIENT ARCHITECT RELATIONSHIP.

The Shidelers were great clients to work for however, Mr. Shideler wanted a much more active role in the process than anyone imagined. We needed to set up more meetings with all of us to discuss what was going on and what we planned on building next. Mr. Shideler is very frivolous with his money and therefore wanted to know where every cent was going before it was spent. Ultimately he picked up the role of ordering materials and getting them on the site. This is where our communications needed to become better. If he wanted to participate in that role we needed to interact with him in weekly meetings where we would sit down and inform him of what we needed, by when, and how long it would take us to construct it. This way the client would have the say and control he wanted while not delaying the construction process.
Beaming with pride

The students at Ball State University, as well as the rest of the campus, were proud of the impressive Barn Project that was completed.

The Barn Project was started as a way to enhance the campus atmosphere and provide a space for students to gather. It was designed by the Architecture Program and was built by the students themselves.

The Barn was constructed using sustainable materials and was designed to be a symbol of the university's commitment to sustainability. It has become a popular gathering place for students, faculty, and visitors alike.

The Barn's design was inspired by traditional barns, but with modern features. It has a large open space with high ceilings, large windows, and a sloping roof. The structure was built using recycled materials, and the interior was designed to be energy-efficient.

The Barn Project was completed in 2014 and has since become a landmark on the Ball State campus. It has hosted numerous events, including festivals, concerts, and community gatherings.

The Barn is a testament to the creativity and hard work of the students who worked on the project. It is a symbol of the university's dedication to education, innovation, and sustainability.
Practically Experienced

Students studying architecture fulfill class by rebuilding burned-down home for family.

by Laura J. Cummings
Assistant news editor

Shoveling 10,000 cubic feet of sheep manure is not a typical architect's job, but through an innovative thesis project to renovate a 148-year-old barn, 13 architecture students are experiencing all of the ups and downs of design and construction.

"Everybody's taken their share of shoveling manure and slopping in the mud," said Bruce Meyer, professor of architecture and the students' thesis adviser, as he stood on the second floor of the three-story frame.

Architecture

Continued from pg. 1

...year, but this design/build project is a first for the university. The project consists of transforming an 1847 woolen barn near Albany into a house for Tony and Suzanne Scheider, whose adjacent home burned down March 17, 1994, as a result of an overheated dryer.

"Considering the fact that they're college students and they've never done anything like this before, they're doing an extraordinary job," said Tony, who is the director of Purdue programs at Ball State.

The students began the project at the beginning of the fall semester by individually developing designs for the house. After studying similarities in the 13 original designs, the students formed five groups, which drafted new designs. These designs were then presented to the Scheiders.

"My wife and I looked at the five and picked what we liked," Tony said.

The students then drafted a final composite design, and construction began in November, continuing every Monday, Wednesday and Friday through rain and freezing temperatures. You can go around this barn and look at different elements and relate those back to the original 13 designs," said Matt Dohm, a fifth-year architecture student.

Meyer said he thought of converting the Scheider's barn into a house after some of the students asked if they could do a design/build project for their thesis. But working with the existing woolen frame of the 6,000-square-foot house has not always been easy, according to Dohm.

"Nothing is in its square," he said.

Another challenge for the students to work around was the four sheep living in the barn at the start of the project.

"We had sheep, down there," Dohm said. "They remained there until last month when we poured the slab. The sheep were still in there, and we just built around them."

According to fifth-year architecture student Jennifer Galer, who said the worst part of the project was "shoveling sheep manure," two of the sheep were eaten by neighboring dogs after they were moved outside.

Another obstacle faced by the group was convincing Scheider to agree to design ideas. Fifth-year architecture student Amanda Fout said. She said the group of students thought the house's siding color should be beige with red accents, but Scheider thought red was "too bright."

"With dealing with a real person and someone else's money, it's their decision that matters," she said. "You don't get to do everything you want. But that's the real world."

According to fifth-year architecture student Bob Hamrey, another challenge came from having 13 designers working on one project. Whenever a spontaneous change needed to be made, everyone wanted to be in on the decision.
## RESIDENTIAL COST ESTIMATE

### Owners Name
MR. SHIBLEY

### Residence Address
13460 E. EDGEWATER WAY

### City, State, Zip Code
ALBANY, IN

### Date

#### Class of Construction
- [ ] Single Family
- [ ] Two Family
- [ ] Multi Family
- [ ] Other

#### Residence Type
- [ ] Detached
- [ ] Semi-Detached
- [ ] Townhouse
- [ ] Co-Op
- [ ] Condo
- [ ] Other

#### Configuration
- [ ] 1 Story
- [ ] 1 1/2 Story
- [ ] 2 Story
- [ ] 3 Story
- [ ] 4+ Story

#### Exterior Wall System
- [ ] Wood Siding
- [ ] Rock
- [ ] Masonry
- [ ] Other

### Living Area (Main Building)

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### Costs Per S.F. Living Area

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# RESIDENTIAL COST ESTIMATE

## Work Sheet

### Total Page 1

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**ADJUSTED TOTAL BUILDING COST:** $2,139,764

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## SKETCH AND ADDITIONAL CALCULATIONS
BALL STATE UNIVERSITY

GRADUATED MAY 6, 1995.

KELLY MULDER