The Shideler Residence
Albany, Indiana

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Barn House

Barnitecture

May 1995
Department of Architecture
College of Architecture and Planning
Ball State University

Jennifer K. Gilmer

Barn House
Barnitecture

Bachelor of Architecture Degree Program
Thesis Design

Thesis Design Committee
Bruce Meyer - Professor of Architecture - Thesis Studio Critic
Michelle Chiuini - Associate Professor of Architecture - Thesis Critic
Pam Hartwood - Associate Professor of Architecture - Thesis Critic
Rod Underwood - Professor of Architecture - Thesis Critic

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Acknowledgements

Tony, Suzanne and T.J. Shideler
for opening their hearts to a
new vision for their home

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for the initial idea of design-build

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Professor Rod Underwood
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and encouragement

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Thanks Mom and Dad, Lezlea, Melanie & Johnny, Grams
for supporting me throughout
loving you always

Stephen
for always being there
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"A house is in delicate balance with its surroundings, and they with it.

A good house is a created thing made of many parts economically and meaningfully assembled. It speaks not just of the materials from which it is made, but of the intangible rhythms, spirits, and dreams of people’s lives. Its site is only a tiny piece of the real world, yet this place is made to seem like an entire world. In its parts it accommodates important human activities, yet in sum it expresses an attitude toward life."
(Moore 49)

Listen and Hear

Listen to the structure, the people and the power of the place. There you will find the answers and see the image [of home].

Listen to the structure and hear the form.
Listen to the people and touch the heart.
Listen to the place and feel the vision.

This endeavor is a dedication to the art of listening. Listening in the design process relies on all of the senses, especially the creative sense of the mind.

The design of any house requires intensive listening to and interpretation of wants and needs. The actual realization of a house becomes a complicated matter when dictated by the site, manipulated by human perception, and finalized by the pocketbook.
Introduction
The beginnings of an idea

For fourteen thesis students the prospect of a design-build final project came into realization with the courage of Professor Bruce Meyer, or perhaps it was his blind willingness to try something new and unchartered. With a proposition sparked by Tim Macy and Sarah Marshall; a small group of adventurous, but wandering, students put their talents together for a full year of collaboration.

Initially, the design was to complete a low-income family housing unit in conjunction with the Muncie Home Center.

With high hopes the go ahead received on October 28, 1995. Bruce Meyer’s design-build thesis studio, consisting of Jeff Bogle, Matthew Douhan, Amanda Fritz, myself, Aaron Haschel, Robert Harmeyer, Jeannie Kemble, Timothy Macy, Sarah Marshall, Phil Matton, Troy Miller, Kelly Mulder, Roland Resurreccio, and Matthew Woodruff transformed a well-preserved 1840’s heavy time barn into a ‘dream’ home. From the beginning of the project, the structure would be stripped of it’s skin, it’s identity, it’s sheltering capability and reconstructed as the ultimate form of shelter for man— a house. The studio would be responsible for building up the shell, the structure was taken care of over 140 years before.
The process of construction, in effect, began by 'deconstructing' the image and character of what makes this particular building type unique or at least a great part of that -- barn vernacular.

As for the design process in this scenario, the number of possible solutions one can visualize is unlimited. The design solutions will still incorporate the original or expand upon that set of images finalizing something new and exciting. Either way the interior members shall always echo the history of the barn and its intended functioning.

Also, by looking at the deconstruction of this piece of architecture, direction and understanding for the resulting construction is intensified. Field design resulting from the synthesis of new and old construction adds to the detail of the final design, when maintained along the original prescribed guidelines as overall design intentions.
Tony Shideler is a professor for Purdue University in Ball State University's extension program as a mechanical engineer in the technologies department. His wife, Suzanne is currently employed in insurance sales. Both of the Shideler's have grown children from previous marriages and one son, T.J., of fourteen years. The family grows from three to about twenty-five when the older children return, during large family gatherings like holiday celebrations and open houses.

This information along with specific personal family preferences (or enjoyments), like that listed below, is crucial for the development and ultimate design of the project. For the Shideler's, cooking is an important activity. There are strong feelings about dining together for breakfast and dinner. Tony likes to prepare gourmet food and entertain while cooking. Other various activities include farming, gardening, canning and making preserves. Some outdoor recreations of choice include skiing and enjoying the pond. Reading also takes priority in the daily routines, with a special appreciation for art.
History

In the spring of 1994, the Shideler 1840's residence of over twelve years burned beyond repair, because of an electrical fire which began in the neighboring milk house. What remains on the site, however, is a pegged post and beam timber-frame barn of the same period.

Since moving to this farmstead, mention of converting the barn structure into a home had been a fleeting dream. Through the tragic loss of their home, the Shidelers have stumbled upon the opportunity to explore their heavy-timber barn as viable solution to the search for a new home with the guide of Bruce Meyer's thesis design studio. With an investment spanning more than a decade, the existing strong connection to the site and community makes staying in the same location a worthwhile answer.

Through the use of two client meetings, a feel and basic understanding for the project and the clients was achieved. Many important considerations were revealed in these sessions. Background on the lifestyle of the family helps to guide the program and final design of the various spaces for the house.
Site Inventory
Location
13440 E. Edgewater
Albany, Indiana

Inventory
25 acre lot, 2 acre pond
House remains, circa 1840
Three-level barn, circa 1840
Grainery and Pole barn (garage/tool shed)

North
Site slopes down beyond existing fenceline
Mississinewa River bank
Vista between trees to slope and river
Winter winds, partially blocked by evergreen trees along fence

South
Pond at lower elevation
Sparcely planted deciduous trees
Main road
South face of barn serves for passive solar potential
Reflections of morning and evening light over pond

East
Original house location
Existing driveway
Grainery and pole barn
Prime entry for protection and driveway
Morning light -- sunrise

West
Grouping of small Christmas trees (over 100)
Various large trees along fence
Cornfield beyond site
Summer breezes
Spectacular view over the pond in southwest corner
Evening light -- sunset
Design-Build
Premise

The idea of architect as master craftsman has increasingly been watered down through the ages. An architect’s role in the total development of designs has diminished for a variety of realities. The most crucial of these is a distancing from actual construction means and methods; more explicitly, craft. (another being the specialization attained in a modern society) The renaissance men of Michaelangelo and Bramante’s day were involved first hand in actual construction of their architecture. This attitude and understanding allows for greater creativity and mastery of architecture.

Through simply creating a greater understanding of building--materials, joinery, construction--the architect is better equipped to fulfill a design. This is attained by integrating building technique with aesthetic expression.

Thus, the ultimate challenge for the architect is to become one with the project. By eating, breathing and construction a design from paper into realization; a tremendous growth and expansion in understanding occurs. A bond develops between builder and building. This special communication becomes essential in the design-build process.
A place called... home

studying the elements that make home-home...

There exist deep-rooted expectations concerning the iconography of a house. From the gable roof to the white picket fence, preconceived notions will always remain on the minds of the homeowner, as well as with the architect. Thusly, the goal is to achieve the same feeling produced by the historically proven archetypes within the constraints of an 1840's barn.

A feeling of belonging between dweller and dwelling can guide this connection which needs to be engaged successfully. By enabling family interaction on many levels, the space is able to enhance the feeling of fitting and serving the whole. Everyone must have a place to call one's own—one's "room" and personal realm. Positive interaction also creates the atmosphere of home.

Home must also provide a sense of security and well-being for the family. Security is found in a variety of ways, but it is a matter of perception which controls the majority of these issues. For the Shideilers, the importance of security has been exponentially increased after the trauma of losing the place called home through the fire.
Building a residence from the skeleton of a barn is an expansion of the typical expectations for single-family detached housing. Although from the onset Tony Shideler did not have a clear idea about the possibility of his barn becoming a house, Suzanne's vision and enthusiasm took over and pushed forward. This exploration delves into the discovery of those elements which make the home what it is, while deriving and combining these magical elements from the barn structure and imagery.

Other metaphors for the house are apparent and widely enacted. Abstractions of spaces such as theaters, studios, retreats and castles are referenced and accepted. In essence, the home is an amalgamation of various building types, a microcosm of the outside world. It includes attributes of all of these with its formal stage for gathering and its intimate personal escapes.

The quality and performance of the design is ultimately achieved by 'fitting' the user needs and wants into the skeleton of the barn. Not only are the physical and spacial needs of the clients to be fulfilled, but the emotional and psychological needs, as well. This will come throughout the whole process and culminate with the final production of a house.
"According to critic Walter Benjamin,

'To inhabit means to leave traces.'

Just as leaves collect on the ground and stones wash up on the tide line, creating the patterns of nature, the artifacts we gather around us reveal the patterns of our own lives." (Busch 90)

It is this presence of oneself, through momentos and photos, and other comforts, that provides a connectedness with place — familiarity.

In order to piece together 'the elements that make home-home...', it must be understood, first and foremost, that nostalgia governs the sensibilities where home is concerned. Carrying a little history around inside, each individual creates the identity of home by surrounding themselves with those securities.

The final realization of the 1840's barn as a home will come with the smallest additions. They will be made in the various knooks and crannies of the structure, along with the life of all the activities housed within its walls.
**Design Intent**

- maintain integrity of existing structure
- readapt barn features into qualities of *home*
- maximize and manipulate open space versus enclosed space

The most important issue concerning the building is maintaining the structural and aesthetic integrity of the timber frame. In order to accomplish this, the entire skeleton needs to be wrapped with an exterior finish that protects the individual members of the barn. By enclosing the entire volume, the overall mass of the building appears much greater than that of a house, which is overwhelming [in Suzanne's eyes].

To enhance the interior spaces and attempt to break up the sheer mass of the building, an enclosed porch-sunroom-stretches along the south face of the building on the lower level. The entire design of the house hinges upon this space, as it also is utilized for its passive solar potential with its perfect orientation and flexibility. The dominance of the space is aided by the potential for its volume which extends up all three stories.
Maintaining the unmistakeable barn imagery will add character and soul to the new house. By creatively using common pieces of the barn vernacular as artifacts of daily life, an honest design ensues. The open, exposed structure will always beam with barn appeal.

The idea of hay lofts, barn doors, built-in ladders and of course the color of barn red can be integrated to suit alternative functions. For example, the barn doors can be used as shutters and built-in ladders can be manipulated into shelving or circulation.

Finally, the building and site are to be regarded as a single 'eco-system.' In order to prepare this singular system of interacting site, building and user, it is necessary to understand the existing constraints in so far as the site, the structure and the desires of the Shidelers.
## Space Summary

<table>
<thead>
<tr>
<th>Space</th>
<th>Square footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Room</td>
<td>500</td>
</tr>
<tr>
<td>Main Entry</td>
<td>48</td>
</tr>
<tr>
<td>Living Room</td>
<td>180</td>
</tr>
<tr>
<td>Dining Room</td>
<td>180</td>
</tr>
<tr>
<td>Kitchen</td>
<td>192</td>
</tr>
<tr>
<td>Library</td>
<td>100</td>
</tr>
<tr>
<td>Master Bedroom Suite</td>
<td>192</td>
</tr>
<tr>
<td>Master Bath/Dressing</td>
<td>135</td>
</tr>
<tr>
<td>Study</td>
<td>125</td>
</tr>
<tr>
<td>Bedrooms (144 each)</td>
<td>288</td>
</tr>
<tr>
<td>Baths</td>
<td>90</td>
</tr>
<tr>
<td>Loft</td>
<td>100</td>
</tr>
<tr>
<td>Craft Room</td>
<td>120</td>
</tr>
<tr>
<td>Mudroom/Laundry</td>
<td>80</td>
</tr>
<tr>
<td>Root Cellar/Utility Room</td>
<td>150</td>
</tr>
<tr>
<td>Garage/Work shop</td>
<td>960</td>
</tr>
</tbody>
</table>

**Total Net Square Footage**  3440

**Total Gross Square Footage**  3956
Sun Room

Users
Shideler family, guests, visitors

Activities
Fair weather overflow of interior activities, internal porch, entertaining, sitting, eating, relaxing, reading, writing, studying, talking, interior gardening

Time of Use
Available at any time of day, varies according to climate conditions and amount of social activity

Equipment
Thermal mass, moveable walls, sliding doors, operable louvers, ceiling fans, shutters, lounge furniture, bookshelves, plants, electrical/phone service

Thermal Concerns and Requirements
Capability for mechanical heating and cooling the space only when required for specific use, otherwise non-conditioned space, natural ventilation circulating low to high

Acoustical Concerns and Requirements
Acoustically isolated from adjacent rooms, provide for speech privacy, compliment hard surfaces with sound absorbing materials, hangings, furniture etc.

Lighting Concerns and Requirements
Flood with natural light from south, west, and east, task lighting (lamps for intimate work areas) 30 fc general lighting, 70 fc reading/writing

Space Description
size 60' x 10'
shape
form long narrow interior/exterior passageway
layout flexible area expanding to suit occasion and climatic conditions
adjacents-dining room, living room, master suite, exterior spaces, decks
Design Criteria

Concept: expandable, adaptable transition space between indoors and outdoors

The sun room enables the barn floor plan to maintain an intimate scale; while allowing for growth and flexibility of major spaces. These advantages are exemplified with the occasions of large family gatherings, especially through the holiday seasons. The driving force behind the overall design of the entire house plan revolves around this area because of its immense thermal and spatial capabilities. Passive solar design is utilized to naturally heat and ventilate the space and adjacent rooms. Through the use of south facing glass, thermal mass in the floor and partitions, exterior shutters, and louvers. The sun room serves as a thermostat for the entire house. Spectacular views of sunsets and sunrises call for a south orientation facing the pond.
Main Entry

Users
Shideler family, formal and informal guests, visitors

Activities
Entering, exiting, greeting, thanks and farewell, bundling/unbundling, coat checking, boot changing, umbrella maneuvering

Time of Use
Unlimited use, ☐ winter and rain linger more ☐

Equipment
Front door, bench, coat rack, umbrella container, door mat, doorbell, exterior lighting, shelving for keys/mail, etc.

Thermal Concerns and Requirements
Not a heated or cooled space, entry lock to serves as an intermediate zone between conditioned and unconditioned air

Acoustical Concerns and Requirements
Isolate the interior from exterior distractions, protect the space from adjacent noise while maintaining a certain level of security awareness

Lighting Concerns and Requirements
Accent lighting, natural light from exterior door through sidelights and/or transom and second-storey clearstory windows, exterior lighting, 15 fc. general ☐ lighting ☐

Space Description
size 6' x 8'
shape tall, small space
form dramatic, formal entry
layout adjacents-stairs, guest bath auxilaries-coat closet 2' x 4'

20
Design Criteria

Concept: lock, as thermal and psychological barrier to the elements

A main entry is the first and last impression making space in the home. Therefore, sight lines must be carefully orchestrated to lead the visitor on a tantalizing tour through the senses of sight and discovery. The intent is to arouse a 'positive' impression of the three-dimensional volume which awakens the mind with the first glimpse of the awesome wooden structure. The formal procession into the house is preceded by an exterior expression in the form of a porch, portico, stoop or overhead awning. The exterior face is used to entice the individual to this most important portal--the front door. A welcoming gesture is crucial, at this point, to the overall impression of the house and its occupants.

The interior lock provides a thermal barrier or intermediary space for which to make the transition from outdoors to indoors and vice versa, which is important for putting on coats and other weather gear.
Users
Shideler family, guests, visitors (salespersons)

Activities
Congregating for family functions, entertaining, game playing, socializing, conversing, music listening, resting, reading, eating (extension of dining room)

Time of Use
Available at any time of day, social activity generally later in the day or evenings

Equipment
Fireplace/ceramic stove, piano, sofa, love seats, chairs, bookshelves, art displays, ceiling fan, accent lighting, standard electrical service (per space)

Thermal Concerns and Requirements
Heating center located around the hearth, maintain temperature of 68-72 degrees and humidity of 50-52% (per space, unless otherwise noted)

Acoustical Concerns and Requirements
Quality resonance required for piano sound, speech privacy within the space for personal conversations, privacy also from adjacent spaces

Lighting Concerns and Requirements
Accent lighting for structure and art displays, natural light from skylight (cupula) and borrowed light, 10 fc. general lighting, 30 fc. reading, piano

Space Description
size 12' x 15'
shape conforming to structural bay and hearth
form open plan, spilling into adjacent spaces
layout adjacents-kitchen, dining room, decks entry, vertical circulation auxiliaries-sun room extension
Design Criteria

Concept: lofty ceremonial space opening up to structure and life of the barn house

Half theater, half museum, the living room is a chronicle of our lives, but it’s not a diary. It’s more like... an autobiography.

This space rises to perform in a formal gathering arena, as well as an informal setting. Intimate conversations and larger party talks must at once be contained and maintained in this space. This is achieved by creating smaller niches for private, introverted activities within the larger room.

A visual illusion of space is created with the inspiring two-storey volume which highlights the beautiful wooden timber frame. An ability to expand and borrow space from the sun room also allows for increased flexibility and use.

A central location emphasizes the importance and unifying character of such a space. The heart of the home is also warmed by a communal hearth which serves to tie the adjacent spaces of dining and kitchen together. A strong connection is created between the formal dining room and communal kitchen.
Dining Room

Users
Shideler family, guests, visitors

Activities
Entertaining, eating, serving food, cleaning up after meals, storing dishes or other valuables, board game playing, socializing, conversing, reading, writing

Time of Use
Meal times, available at any time of day, social activity generally later in the day or evenings

Equipment
Dining table, china cabinet, display cases, serving table, shelving, ceiling fan, 'fantastic' lighting fixtures

Thermal Concerns and Requirements
Adjacent, if only visually to heating center located around the hearth in the living room, a great number of people will be using this space at one time which requires increased air flow

Acoustical Concerns and Requirements
Protect the space from adjacent noise, allow for small group conversations and larger interactions

Lighting Concerns and Requirements
Accent lighting for art displays and structure, flexible with dimmer, natural light from west or south, and borrowed light sun room, 15 fc. dining, 30 fc. games, 70 fc. reading/writing

Space Description
size 18' x 10'
shape rectangular configuration
form open plan, delineated by dining format
layout adjacents-kitchen, living room, decks auxiliaries-sun room extension for party expansions
Design Criteria

Concept: formal eating space, expandable for up to twenty-five people.

The ceremonial atmosphere of a formal dining room elevates the experience and appreciation achieved in the entire barn house. Lasting impressions of the home come from the display and presentation created by this space along with the living area and foremost the entry. The special celebrations held in the formal eating area create lasting moments which accompany the coming of holidays and other family gatherings. However, to increase frequency of use, a spectacular feeling is created through the use of views and lighting. The functional aspects of an expandable dining area also lend themselves to the adaptation of smaller daily use, which increases family unity. Daily arrangements should allow for mixed use by creating easy access to move through the space, while special configurations conform to the more formal requirements of a dining room.
Users
Shideler family, extended family, guests

Activities
Entertaining, food preparation, food serving, cleaning, storing, eating, snacking, grazing, grooming

Time of Use
Unlimited use, primarily breakfast, lunch and dinner time

Equipment
Sink, dishwasher, garbage disposal, trash compactor, range, vent exhaust, microwave, refrigerator, cutting block, various cabinets, coutnertops, bar stools, breakfast table, numerous small appliances, telephone jack, electrical service at counter height

Thermal Concerns and Requirements
Heat gain due to major appliances considerable to design load, great return and supply

Acoustical Concerns and Requirements
Requires sound absorption and isolation because of open plan for general appliances

Lighting Concerns and Requirements
Accent lighting, ability to darken/dim kitchen area to hide mess, natural light from exterior, task lighting at work centers, 50 fc. general serving, 150 fc. for prep. and cleaning

Space Description
size 12' x 16'
shape maximize work triangle and eating area
form open and screened plan
layout adjacents-living and dining rooms, decks auxilaries-pantry, storage, planning desk
Design Criteria

Concept: social center, main focus of interaction for family and friends

A variety of activities and relations converge in and around the kitchen. This thriving center has become more than a simple matter of function and service; it is a major social component where much time is spent.

The importance of this space is shared by an open plan with the living and dining rooms. Also, the hearth plays a key role as the visual connection tying them all together. Eating, entertaining, conversing and telephoning are a few of the activities that are centered here. The kitchen provides informal dining for lunch, breakfast, snacks and coffee.

The kitchen layout requires careful consideration of the sequencing of preparation, cooking, and serving, etc. The three workcenters (stove, sink, refrigerator) form a triangle for efficient layouts which measures a total of 16 to 20 feet.
Users

Shideler family, guests, visitors

Activities

Reading, writing, studying, conversing, social interaction, isolating or congregating oneself, semi-private meetings, art displays

Time of Use

Anytime, afternoon noons and evenings

Equipment

Books, built-in bookshelves, chairs or loveseat, end tables, artwork

Thermal Concerns and Requirements

Maintain temperature of 68-72 degrees and relative humidity of 50-52%

Acoustical Concerns and Requirements

Emit quiet aura of library space to create correct ambiance, speech privacy, 40-45 STC

Lighting Concerns and Requirements

Natural indirect-north light, warm incandescent lighting, 70 fc. reading/writing

Space Description

size 10' x 10'
shape intimate, compact configuration
form round of books and visuals
layout physically separated from other open spaces, yet maintain visual connection as an annex of living room
Design Criteria

Concept: mental and physical retreat chamber, separated from the rest of the barn house.

The library functions as an intimate space for relations and escape from the world into a literary realm of the imagination. Focusing inward, the room is essential a microcosm of the formal living room. An atmosphere of contemplation can be achieved by limiting views and interaction with the surrounding spaces. By using indirect lighting, a soft feel is achieved. This along with warm colors and furnishings sets the stage for the library's cozy feeling. 'Off the beaten path' is the motto associated with this room whose best location is in a private corner.
Users

Tony and Suzanne Shideler

Activities

Sleeping, dressing/undressing, storing clothes, personal care, reading, writing, studying, listening to music, conversing, telephoning, sitting, entertaining, exercising, resting

Time of Use

Most time spent in sleeping area, early morning routines and night-time rituals performed daily

Equipment

Bed, wood stove, end tables, desk, chairs, dressing table, bookshelves, ceiling fan, telephone jack, lamp

Thermal Concerns and Requirements

Maintain temperature of 68-72 degrees and relative humidity of 50-52%, supplemented by radiant thermal comfort of wood stove

Acoustical Concerns and Requirements

Acoustical privacy as a priority, speech privacy, 52-55+ STC between adjacents spaces (bath and living)

Lighting Concerns and Requirements

Flexible, warm light for general use, adjustable task lighting, natural lighting and borrowed lighting from sun room, 10 fc. general, 30 fc. newspapers, 70 fc. reading/ writing, darkness is also an appropriate condition

Space Description

size 12' x 16'
shape triangle of sleeping, sitting, bath/dressing
form centered around sleeping area
layout adjacents-bath, dressing, study auxiliaries-sitting, sun room extension

30
Design Criteria

Concept: east-facing bedroom, privacy, personal haven

Privacy is the most important consideration in organizing a master bedroom suite. It is purposefully distanced from the public zones and secondary bedrooms. This multi-functional space provides a luxurious sense of belonging and personal identity, creating strong connections to the home. A personalized touch is made with an emphasis on personal interaction, the importance of reading in a daily routine, and a desire to wake up with the rising sun in sight. Sleeping, sitting, dressing, bathing, and closet space are the five key elements completing the master suite. The sitting area expands into the sun room to provide connection with the interior/exterior porch. Natural light is filtered with the intent of illuminating the sitting area, while maintaining privacy through the site lines. The bedroom also borrows much of its light from the connecting sun room.
<table>
<thead>
<tr>
<th>Users</th>
<th>Tony and Suzanne Shideler</th>
</tr>
</thead>
</table>
| Activities    | Dressing--storage, dressing, personal care, make-up, primping  
Bath--bathing, personal grooming, relaxing |
| Time of Use   | Morning and night, especially during personal preparation times |
| Equipment     | Dressing--shelves, drawers, hanging rods, hooks, vanity, mirror, wardrobe  
Bath--whirlpool tub, shower, toilet, exhaust fan, heat lamp, lavatory, mirror, linen cabinet, towel rack, toilet paper holder, medicine cabinet |
| Thermal Concerns and Requirements | Humidity in dressing area needs to be carefully controlled, heat gain and humidity are concerns raised by the bathroom, both require good ventilation and benefit from operable window for the bathroom |
| Acoustical Concerns and Requirements | Acoustical privacy as a priority, speech privacy, 52-55+ STC |
| Lighting Concerns and Requirements | Natural light preferred for dressing and primping, 50 fc. for grooming |
| Space Description | Size: 6' x 6' closet, 6' long dressing, 12' x 8' bath  
Shape: triangle of sleeping, sitting, bath, dressing  
Form: centered around sleeping area  
Layout: shades of privacy within the bedroom open up to the sun room porch |
Design Criteria

Concept: east facing bedroom, privacy, buffer between bedroom and public spaces

Privacy is the most important consideration in organizing a master bedroom suite. It is purposefully distanced from the public zones and secondary bedrooms. The bedrooms supplemental components are designed for function and support of the sequence of morning and night-time rituals for two. These auxiliary features serve as acoustical buffers guarding the privacy of the bedroom from the active living spaces. The luxury of the master bedroom suite is found with advantages like that of a private bath. It is garnished with whirlpool tub and other perks. In designing for two, the functions are separated into semi-private and private areas of the sink and the shower/tub/toilet. Natural light also plays a key role in the beatification of these somewhat mundane, but enjoyed features.
Users: Shidler family (mainly Tony & Suzanne), overnight guest

Activities: Reading, writing, computer operating, studying, conversing, relaxing, sleeping (guest suite), office functions, art display

Time of Use: Morning and evenings, and weekends

Equipment: Desk, chair, computer (cable), telephone jack, sofa bed, table, stuffed chair, bookshelves, art display, filing system

Thermal Concerns and Requirements: Heat gain from computer and no exterior windows becomes a consideration

Acoustical Concerns and Requirements: Speech privacy important requirement, 45+ STC

Lighting Concerns and Requirements: Natural light not necessary, borrowed light from adjacent rooms (sun room), flexible lighting for working & relaxing, 10 fc. general, 30 fc. reading, 70 fc. details

Space Description: Size 9' x 14', shape lots of wall space, two doors centered around sofa and desk, form layout buffer between public and private, close proximity to master bedroom suite
Design Criteria

Concept: private retreat, introverted

Transitioning between the public realm and the private corners of the house, the study begins to look inward. Views are considered more as a distraction than an asset. Therefore exterior windows are not necessary to fit the requirements of the study space. Yet, monitoring other spaces is beneficial in terms of office work and visitors, and general interpersonal interaction. The dual purposing of this space makes it quite comfortable and relaxed. Office work and play may simultaneously occur within its walls. An abundance of wall space is used by bookshelves, the furniture (sofa bed) and art displays. Some extra measures are to be taken to ensure privacy, visually and acoustically, in terms of sleeping arrangements for guests.
<table>
<thead>
<tr>
<th>Users</th>
<th>T.J., quest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>Sleeping, dressing/undressing, storing clothes, personal care, studying, music listening, resting, hobbies, storage of seasonal gear (spare room)</td>
</tr>
<tr>
<td>Time of Use</td>
<td>Morning and nights, mainly during sleep hours</td>
</tr>
<tr>
<td>Equipment</td>
<td>Bed, dresser, desk, chair, lamps, skylights</td>
</tr>
<tr>
<td>Thermal Concerns and Requirements</td>
<td>Greater heat gain due to second floor location, otherwise normal thermal conditions</td>
</tr>
<tr>
<td>Acoustical Concerns and Requirements</td>
<td>Sound privacy between rooms and through floor. Important requirement, 48+ STC</td>
</tr>
<tr>
<td>Lighting Concerns and Requirements</td>
<td>Flexible and adjustable lighting, task lighting should be fixed and movable, 10 fc. general, 30 fc. general reading, 70 fc. writing</td>
</tr>
<tr>
<td>Space Description</td>
<td>12' x 12' centers around bed space</td>
</tr>
<tr>
<td>shape</td>
<td>private room</td>
</tr>
<tr>
<td>form</td>
<td>adjacents-bath, other bedrooms</td>
</tr>
<tr>
<td>layout</td>
<td>auxilaries-closets</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Design Criteria

Concept: personal identity enclave, retreat

Layout of the secondary bedrooms occurs as a separation from the master suite and public spaces. With privacy in mind, the closets and bathroom serve to buffer the bedrooms physically and acoustically from surrounding spaces, and each other.

After the last child flies from the nest, the upper bedrooms will be available for future renovation and modification. The spare room is also very adaptable, as storage, bedroom overflow, and sewing or office work.

Natural light is gained in the form of windows and skylights/dormers which provide for opportunities for sitting areas and study alcoves. Morning sun will filter in through the east end of the barn's gable to the upper bedrooms.
Baths

Users
Shideler family, guests

Activities
Nature's call, personal grooming and care

Time of Use
As applicable, 24 hour visitation hours

Equipment
Full upper bath—shower/tub, toilet, exhaust fan, heat lamp, lavatory, mirror, linen storage, towel rack, toilet paper holder, medicine cabinet
Half bath—lavatory, toilet, toilet paper holder, towel rack

Thermal Concerns and Requirements
Heat gain and humidity are concerns raised by the bathroom, both require good ventilation and operable window for the bath

Acoustical Concerns and Requirements
Acoustical privacy as a priority, speech privacy, 52-55+ STC

Lighting Concerns and Requirements
Natural light preferred, well-lit/adjustable, operable windows, nightlight for full bath, 50 fc. for grooming

Space Description
size 3' x 7' half bath, 5' x 7'-6" full bath
shape compact
form functional
layout half bath—out of ear-shot
full bath—close proximity to secondary bedrooms

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Design Criteria

Concept: private, functional

Again, privacy is the most important consideration in organizing the layout of bathrooms in juxtaposition to other public or private rooms. Although they require privacy, bathrooms are useful buffers. Acoustical privacy is achieved through location and construction of the bath bathrooms. The best location for the half bath lies directly off of the entryway, secluded from the other public spaces. The upper full bath requires a private path from each of the bedrooms, due to the openness and loft expression of the upper level. Another key element which adds to the quality of the bathroom experience is found in natural lighting and ventilation.
Loft

Users

Shideler family, guests, overnight guests

Activities

Reading, writing, studying, conversing, relaxing, sleeping (guest suite), office functions, art display

Time of Use

Anytime for general use, overflow guests

Equipment

Lazyboy/sofa, bookshelves

Thermal Concerns and Requirements

Open air circulation from other spaces, second floor heat gain a consideration, natural ventilation ideal

Acoustical Concerns and Requirements

Speech privacy important requirement for an open space

Lighting Concerns and Requirements

Adjustable levels, dimmers with lighting to over flow to communal spaces below, task lighting for specific activities, 10 fc. general, 30 fc. reading, 70 fc. writing

Space Description

size 10' x 10'
shape loose furniture arrangement
form open to living space below
layout adjacents-vertical
circulation
Design Criteria

Concept: overflow space, dramatic view and observation location

This casual space is designed to take on the burdens of other spaces. Its flexibility can adapt to various uses from hanging out to sleeping over. The loft is the 'fun' space to get away and escape the confines of people and enclosures. Controlling views of the spaces surrounding the loft create a greater awareness of the entire household...the crow's nest.
Craft Room

Shideler family (mainly Suzanne)

Activities
Sewing, painting, sculpting, craft making, drawing, present wrapping and stashing, gift making

Time of Use
Evenings, early mornings and weekends or days off

Equipment
Work table, plan desk, shelving, generous storage cabinets and closets, sewing machine cabinet

Thermal Concerns and Requirements
Greater heat gain due to second floor location, otherwise normal thermal conditions

Acoustical Concerns and Requirements
Sound privacy and insulation of sewing machine noise, etc., 45+ STC

Lighting Concerns and Requirements
Flexible and adjustable lighting, task lighting should be fixed and movable, 10 fc. general, 70-100 fc. for handcrafts

Space Description
10' x 12'
organized for efficient work and storage
contained 'mini' workshop
auxiliaries-spacious closets for equipment, materials and project storage

42
Design Criteria

Concept: Suzanne’s workshop

Serving as a hobby/craft center, the craft room performs as a catch-all for various jobs. Flexibility and efficiency are crucial to the effectiveness of the space and its work stations.

Another critical element to the success of any work space is the abundance and planned use of storage facilities: closets, shelves, storage bins, etc.
Users
Informal guests and family

Activities
Clean up, shower, toilet facilities, changing clothes & boots, washing and drying clothes, ironing, storage

Time of Use
Anytime deemed necessary

Equipment
Sinks, toilet, shower (floor drain), laundry sink, washer, dryer, ironing board, shelving, hanging rod, cabinets, countertops, mirror

Thermal Concerns and Requirements
Heat gain and relative humidity are considerable due to washer, dryer and shower, temperature set to 60-68 degrees

Acoustical Concerns and Requirements
Sound isolation for both laundry and bathroom facilities at a level of 50+ STC

Lighting Concerns and Requirements
Well-lit, task lighting should be fixed and moveable for laundry, bathroom vanity lighting and at shower, 30-50 fc. for laundry work and 50 fc. for grooming

Space Description
size 7' x 10' laundry, mudroom incl functional in layout
shape conducive for circulation to pass while work continues
form mudroom serves as through way to and from the garage auxilaries-closet to laundry room and coat closet
layout
Design Criteria

Concept: transitional entry

The mudroom serves as a transition space between the garage and secondary entry into the lower interior space. This area performs its peak usefulness throughout the harsh seasons. The rugged nature of the space requires durable materials to endure the abuse of dirt and traffic. Sound isolation is also a necessity. Small operable windows are nice added features, which improve the quality of the bathroom and laundry area.
Shideler family

Storage of canned, dry and frozen foods, service of mechanical systems

During food preparation and servicing of mechanical systems

Freezer, shelving, cabinets, furnace, water heater, water softener, panel box, sump pump

Temperature of 60-68 degrees for pantry to keep perishable foods cool, utility systems create considerable heat gain

Sound isolation for utility room 50+ STC

General lighting requirement of 10 fc., 30 fc. for working on various equipment

7' x 10' cellar, 8' x 10' utility room functional in layout

Service oriented lower level
Design Criteria

Concept: service space

The functional layout of these spaces is suitable for any corner of the lower level, yet access is crucial for service and everyday use. Room for growth and expansion must be assigned from the onset. Sound isolation and thermal considerations concerning temperature and humidity are important.
Users
Shideler family

Activities
Parking, storage, fixing vehicles and appliances, woodworking

Time of Use
Varies

Equipment
Garage doors, garage door opener, cars, mowers, power tools, shelves, wall storage systems

Thermal Concerns and Requirements
Non-conditioned space, may require portable heat source

Acoustical Concerns and Requirements
Sound isolation surrounding liveable spaces, 60 STC

Lighting Concerns and Requirements
General lighting requirement of 10 fc. in garage and workshop, critical task lighting in the workshop, 70-150 fc. for handcrafting

Space Description

22' x 24' garage, 18' x 24' workshop
open and spacious
a place for everything, and everything in its place
adjacents-mudroom, basement spaces, lower level auxiliaries-storage for garage and workshop
Design Criteria

Concept: service space

The design layout calls for a strictly functional approach. Creation of various storage units will keep the usable space of the garage and workshop at a maximum. Integrated wall storage systems and cabinets provide for this need. The fire rating and safety of these areas is also an important matter to be addressed, considering the relative close connection to the interior of the barn house. Also, sound transmission can be handled using baffles in the design of walls and overhead floors.
# Residential Cost Estimate

**Owners Name:** Tony & Suzanne Shideler  
**Costs**

**Residence Address:** 13448 E. Edgewater  
**Project:** Design-Build

**City, State, Zip Code:** Albany, IN 47310

**Date:** Dec. 9, 1994

## Class of Construction
- **Economy:** 
- **Average:** 
- **Custom:** 
- **Luxury:**

## Residence Type
- **1 Story:** 
- **1 1/2 Story:** 
- **2 Story:** 
- **2 1/2 Story:** 
- **3 Story:** 
- **Bi-Level:**
- **Tri-Level:**

## Configuration
- **Detached:** 
- **Attached:** 
- **Townhouse:** 
- **Semi-Detached:**

## Exterior Wall System
- **Wood Sidings:** 
- **Wood Frame:** 
- **Brick Veneer:** 
- **Stucco on Wood Frame:**
- **Stone Veneer:**

## Occupancy
- **One Family:** 
- **Two Family:** 
- **Three Family:**

## Living Area (Main Building)

<table>
<thead>
<tr>
<th>Level</th>
<th>Square Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Level</td>
<td>2,100</td>
</tr>
<tr>
<td>Second Level</td>
<td>680</td>
</tr>
<tr>
<td>Third Level</td>
<td>515</td>
</tr>
<tr>
<td>Total</td>
<td>2,826</td>
</tr>
</tbody>
</table>

- Basement Area is not part of living area.

## Living Area (Wing or Ell)

<table>
<thead>
<tr>
<th>Level</th>
<th>Square Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Level</td>
<td></td>
</tr>
<tr>
<td>Second Level</td>
<td></td>
</tr>
<tr>
<td>Third Level</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

## Costs per S.F. Living Area
- **$58.65**

## Cost per Square Foot of Living Area from Page 43
- **$35.00**

## Roof Cover Adjustment (CEDAR), Page 43
- **+ 70**

## Central Air Conditioning (Separate Ducts & Heating Ducts), Page 43
- **+ 50**

## Heating System Adjustment (HOT PUMP), Page 43
- **+ 60.65**

## Main Building: Adjusted Cost per S.F. of Living Area
- **$60.65**

## Total Cost

<table>
<thead>
<tr>
<th>Building</th>
<th>S.F.</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main</td>
<td>2,826</td>
<td>163,940</td>
</tr>
</tbody>
</table>

## Additional Costs
- **Additional Bathrooms:**
- **Finished Attic:**
- **Breezeway:**
- **Enclosed Porch:**
- **Covered Porch:**
- **Fireplace:**
- **Appliances:**
- **Kitchen Cabinets Adjustment:**
- **Garage:**

## Miscellaneous Costs
- **Encapsulation:**

## Adjusted Total Building Cost
- **$210,706.65**
Design Solution

The overriding purpose behind this first individual design was to create a strong connection with the site. This connection rests primarily upon the location of a water feature -- the pond. The barn faces south upon the two acre pond which is filled with fish, snapping turtles and blueboard surfers. This perfect orientation provides for many opportunities which include passive solar potential, view and natural lighting. No one could have planned for a better beginning point.

A 'Sun Room' provides for the strong connection between interior and exterior space. Acting as an outdoor room, this porch operates with a double set of doors opening to the house and to the pond. This flexibility allows for manipulation of the house to fit climatic and activity requirements on a day to day basis.

The sun room also serves to divide the enormous amount of barn area into manageable rooms. This active porch becomes overflow space for both public and private rooms. Special care is taken in zoning the house to separate the personal spaces from gather spaces. The public zones face south toward the spectacular view of the water.
An initial meeting with just Tony Shideler sparked the beginnings of a design direction that would be suited for the Shideler family and their family lifestyle. General information about room requirements and overall relationships was gathered by the inquiry.

Overall the design intent remained the same throughout as stated earlier: maintain the integrity of the existing structure, turn the barn into a feature reflecting home, and manipulating open verses enclosed space. The original exterior form was not altered to keep the barn air. However details were added like fenestration and a cupula to break down the scale of the entire building.

Several points of interest were presented by Tony pertaining to daily life and values. One of which being the fact that the Shidelers are morning people and would have the master suite
located in the vicinity of east facing windows for this purpose. They also value time spent together over meals. Gourmet cooking provides another shared activity which involves many people. Finally, an importance is placed upon the art of reading.
Set of exterior rooms → viewing pond → soaking in
<table>
<thead>
<tr>
<th>Ground Floor</th>
<th>First Floor</th>
<th>Second Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garage</td>
<td>Entry</td>
<td>Stairs</td>
</tr>
<tr>
<td>Workshop</td>
<td>Library</td>
<td>Loft/sitting</td>
</tr>
<tr>
<td>Bathroom</td>
<td>Living Room</td>
<td>Attic</td>
</tr>
<tr>
<td>Storage</td>
<td>Dining Room</td>
<td>Bedroom</td>
</tr>
<tr>
<td>Mech. Room</td>
<td>Kitchen</td>
<td>Bedroom</td>
</tr>
<tr>
<td>Rec. Room</td>
<td>Pantry</td>
<td>Bathroom</td>
</tr>
<tr>
<td>Circulation</td>
<td>Half Bath</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laundry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Master Bedroom</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Master Bath</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sitting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dressing</td>
<td></td>
</tr>
</tbody>
</table>

|          |            |              |
| total sq. ft. | total sq. ft. | total sq. ft. |
| 2125      | 1940        | 974          |

**Total**

5039
Small Group Design
Design Solution

As the process of dividing into small groups, following the individual presentations, developed; similar designs were brought together. The common thread among the designs displayed by myself, Aaron Haschel, Phil Matton and Roland Ressureccion remained the goal to 'preserve' and 'display' the structure. The heavy timber barn image was reinforced throughout the designs.

This was accomplished most drastically by adjusting room levels and circulation in accordance with the lay of the timbers. A couple of the eight-by-eight's fell directly in the path of circulation and room layouts. Therefore, this was of major importance in adapting the plan to work around the skeleton of the barn. The major beam located three feet above the first floor, with the attached ladder, required extensive thought and manipulation to be least disturbed. By raising the level of the formal living room, this is achieved.

Other design concerns of arose with creating different zones and feelings with overlapping layers and changes in ceiling heights. Finally, this layout offers many choices in terms of changing levels and levels of intimacy. The spaces range from the living room stage, to the semi-secluded library, to the quiet loft.