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United States Department of the Interior National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts.

See instructions in How to Complete the National Register of Historic Places registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and parative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items

entities and narrative items on continuation sheets (NI o Form 10 30004). Ose a typewriter, word processor, or computer, to compute an items.
1. Name of Property
historic name Daniel House
other names/site number NA
2. Location
street & number 2701 Woodson Drive NA not for publication
city or town Knoxville NA vicinity
state Tennessee code TN county Knox code 093 zip code 37920
state Termiessee Code TN County Knox Code 033 Zip Code 57320
3. State/Federal Agency Certification
nomination
Signature of certifying official/Title Date
State or Federal agency and bureau
4. National Park Service Certification
I hereby certify that the property is: Pentered in the National Register. See continuation sheet Signature of the Keeper Date of Action 3-19-98
☐ determined eligible for the National Register. ☐ See continuation sheet
determined not eligible for the National Register
removed from the National Register.
other, (explain:)

Daniel House		Knox, TN				
Name of Property		County and State				
5. Classification						
Ownership of Property (Check as many boxes as apply)	Category of Property (Check only one box)		rces within Property sly listed resources in count)			
X private ☐ public-local	X building(s) ☐ district	Contributing	Noncontributing			
□ public-State	☐ site	1	1	_ buildings		
□ public-Federal	☐ structure			sites		
	□ object			structures		
		· 1	1	_ objects Total		
				=		
Name of related multiple (Enter "N/A" if property is not party	property listing t of a multiple property listing.)	in the National Re	outing resources previ gister	ously listed		
N/A		0				
6. Function or Use	<u> </u>					
Historic Functions		Current Functions				
(Enter categories from instruction		(Enter categories from instructions)				
DOMESTIC/single dwelling	9	DOMESTIC/single	dwelling			
			- Andrews			
7. Description			<u> </u>			
Architectural Classificati		Materials	notrustiana)			
(Enter categories from instruction Modern Movement	13)	(Enter categories from in foundation concre				
		walls marble/glas				
		roof galvanized				
		other steel Quons	set ribs			

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

Knox, TN
County and State
Areas of Significance (Enter categories from instructions)
Architecture
Period of Significance circa 1948 - circa 1949
Significant Dates 1948 - 49
Significant Person (complete if Criterion B is marked) NA
Cultural Affiliation N/A
Architect/Builder Fitzgibbon, James W.
ets.)
n one or more continuation sheets.)
Primary location of additional data: State Historic Preservation Office Other State Agency Federal Agency Local Government University X Other Name of repository: Donald W. and Barbara K. Renfroe

Daniel House			Knox,	TN	
Name of Property	County and State				
10. Geographical Data					<u> </u>
10. Geographical Data					
Acreage of Property 0.65 acres	Knoxville				
UTM References (place additional UTM references on a continuation sheet.)					
1 17 233890 3979230 Zone Easting Northing		3	Zone	Easting ee continuation shee	Northing
Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)					
Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)					
11. Form Prepared By					
name/title Nancy Brown (N. Campbell, C. Gearhiser, G. Krat Washburn, C. Williams)	uth, K. Kacz	or, D	. Lowry,	, K. Lucas, C. Mi	ller, E.
organization College of Architecture & Planning, UTK			date	29 April 1997	
street & number 1618 Cumberland Avenue		telep	ohone	(423) 974-522	7
city or town Knoxville	state		٧	zip code _3	7996-3300
Additional Documentation					
submit the following items with the completed form:	**************************************				
Ocation ties Obserts					
Continuation Sheets Maps A USGS map (7.5 0r 15 minute series) indicating the particle of the series of the serie				nerous resources	5 .
Photographs					
Representative black and white photographs of the	property.				
Additional items (Check with the SHPO) or FPO for any additional items					
Property Owner					
(Complete this item at the request of SHPO or FPO.)					
name Donald W. & Barbara K. Renfroe					
street & number 2701 Woodson Drive			1	telephone (42	3)579-6920
city or town Knoxville	stat	e <u>T</u>	N	zip code _	37920

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listing. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.)

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P. O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20303.

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Description

The Daniel House is located in a heavily wooded neighborhood in suburban Knoxville, Tennessee. Construction on the house was begun in 1948 and completed in 1949. The house nestles into its sloping site and appears to cascade down the hillside. The outline of the house is a double vault created with two sets of interlocking Quonset-hut ribs which form the ruling structural element of the house. The upper vault extends down to intersect with the lower vault, creating a stable system of ribs and a unified roof over the entire length of the house. The lower vault forms the roof of the original carport/ kitchen area and continues into the dining room to form its relatively low ceiling. The ribs of the lower vault extend beyond the foundation along the south side of the house while, along the north side, they are secured to a masonry retaining wall that runs longitudinally through the approximate center of the house. The mass of stacked marble slabs forms the south wall of the interior stairway and runs outside to form a wall for an upper private patio. The upper vault rests atop and somewhat off-center of the lower vault and runs from the kitchen for the full length of the house. Along the south side of the house this structure is supported by the lower vault ribs except in the living room where the ribs of the upper vault extend through the ceiling to rest on the south wall. The ribs along the north side of the house are moored in the concrete foundation that forms the wall of the house. This rather airy structure rests atop contrasting massive foundations and walls constructed of concrete block faced with marble slabs, laid horizontally like a deck of cards, with each course having a consistent slab thickness. The bed joints are left unraked to reinforce the horizontal line of the masonry. The exterior walls are completed with glass sheets let into the masonry at sill height, creating the illusion that the ceilings float above the stacked marble walls. Operable casement windows framed in wormy chestnut punctuate these glass sheets. At either end of the approximately 72-foot long structure, the walls are glass, framed in wormy chestnut formed to follow the shape of the arched ceilings. Wormy chestnut completes the walls, both inside and outside, and is used to construct window frames, door jambs and the house's generous built-in storage cabinetry. The roof is covered with corrugated metal panels applied longitudinally.

The original design of the house consisted of a living room/dining room, kitchen, study, bath and carport on the first floor and three bedrooms, a bath and storage area on the upper level. Despite renovation and a rehabilitation, the footprint of the house remains unchanged. In 1961, the house was sold to the Neal Cantrell family and they very soon undertook renovations to provide additional space for their growing family. Perhaps the most significant change was their conversion of the carport and exterior entryway by enclosing the two open sides with windows, again framed in wormy chestnut, to form a sunroom. The kitchen walls were removed to open it up to the sunroom and walnut parquet flooring was laid over the concrete base. At the time the sunroom was enclosed it still contained a 100-foot tall pine tree that had, since the house was built, pierced the carport roof. In the mid-1960's, the pine tree died and was cut down, and the opening through which it has projected was covered with a flat sheet of Plexiglas. With the rehabilitation in 1982, the Plexiglas sheet was replaced with a 10-foot tall Plexiglas pyramid skylight which, in addition to commemorating the pine tree, maintained the essential vertical element in the house's otherwise decidedly linear design. To replace the space given up to the creation of the sunroom, a three bay garage was constructed as a separate structure to the east of the house, again using walls of stacked marble and a roof of corrugated metal. Due to its age, it is considered noncontributing. The new driveway is entered from Appleby Road which forms the southern boundary of the property, although the house maintains a Woodson Drive address. With the original entry enclosed as part of the sunroom and the

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construction of the garage, the main entrance shifted to the living room doorway. Other modifications carried out in the 1960's renovation included the construction of bookshelves and a sliding pocket door, all of wormy chestnut, to separate the lower study from the main living room, allowing it to be used as a fourth bedroom. Upstairs, the children's bedrooms were separated by closets and a wall of chestnut where there had been an accordion-type folding door.

In 1970, Neal Cantrell died and the house fell into a state of terrible disrepair. In 1982 when the house was purchased by architects Peter and Susan Calandruccio, it had been vacant for some seven years during which water and silt had washed into the house from the hillside. So extensive was the damage that the floor of the master bedroom, the only one in the house not built on grade, had collapsed into the study below. Exterior paneling had rotted away in places and termites had eaten away the wall between the study and bath as well as a goodly portion of the walnut parquet along the back wall of the kitchen. The Calandruccios set to work immediately, hauling away tons of debris. Initially, there were two major problems that had to be corrected before the job of rehabilitating the house could go forward. The first step was to address the problem of runoff from the hillside. This was accomplished by removing the accumulated sediment and constructing a swale to divert the runoff from the hillside and reduce the water pressure on the foundation and retaining wall. Additionally, new galvanized steel gutters were installed to replace the original deteriorated aluminum gutters, resolving the problem of runoff from the roof. Secondly, the original roof skin, constructed of 2-foot by 6-foot corrugated aluminum panels, had to be replaced. The availability of more modern materials in the form of corrugated galvanized steel in 40-foot lengths allowed the new roof skin to be applied over the old with only a single seam down the center of the roof. The roof of the lower vault at the west end of the house was extended to provide a much needed overhang to protect against further rain damage. The exposed exterior Quonset ribs were sandblasted and painted. Inside the Calandruccios added a small but fully functional second bathroom on the upper sleeping level and created access to the existing main bathroom from the master bedroom by carving a passageway through the dead end of the master bedroom closet. A built-in sleeping platform with skylight above was constructed in the space that had once been the storage loft, almost doubling the size of the room. Downstairs, the kitchen was reconformed with the addition of a large L-shaped island, resulting in twice the counter and cabinet space. The walnut parquet in the kitchen was replaced with ceramic tile, with the salvageable pieces used to repair sections of damaged parquet in the sunroom. The chestnut used to remodel the kitchen and construct the sleeping loft was recycled from the facing of the east and west walls in the master and third bedrooms and replaced with drywall to brighten the otherwise dark spaces. The 4 by 8-foot paneling of the kitchen and sunroom ceiling was, likewise replaced with drywall. A dual heat pump system was installed to replace the electric baseboard heat and window air conditioners, but the required duct work disappears in the walls and openings are revealed with simple grilles of wormy chestnut.

The current owners, Don and Barbara Renfroe, who bought the house in 1993, have made only minor modifications to the house, the most noticeable being the replacement of the aluminum sliding glass door in the sunroom, installed in the 1961 renovation, with a custom built wood framed sliding door. While there have been modifications to the design of the house, the overall integrity of the Daniel House remains intact. After nearly fifty years, and four owners, the essential architecture of the house remains unchanged.

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Statement of Significance

The Daniel House is eligible under National Register criterion C for its local significance in architecture. It is significant for its unique design by noted architect James W. Fitzgibbon and for the way it demonstrates the Post-World War II experimentation with form and materials to build inexpensive and innovative housing. The waterfall design and use of scrap marble from the The Candora Marble Company in the community of Vestal and Quonset ribs for the framing make the Daniel House one of the most unusual modern houses in the state. The vaulted interior, spartan materials, and glass sheets that make the ceiling appear to "float" are all architectural elements that would become more common in the area over the next twenty years. Although the carport was enclosed and kitchen reconfigured in 1961, the original footprint and design is still evident. Furthermore, the 1982 rehabilitation brought the kitchen/sunroom closer to its original interior configuration. Although not quite fifty years old, the house has exceptional significance because of its unusual design, materials, and association with James W. Fitzgibbon. Fitzgibbon was associated with and influenced by several avant guard mid-century architects, including Bruce Goff and Buckminster Fuller.

James W. Fitzgibbon graduated from Syracuse University and from the University of Pennsylvania where he studied architecture as a Theodore Parsons Fellow. While in Philadelphia, he worked as a designer with the United Engineers, an experience that served to acquaint him with industrial materials and building methods.

In 1944, Fitzgibbon accepted the job of Campus Planner at the University of Oklahoma and later became an associate professor of architecture. At the University of Oklahoma, Fitzgibbon became friends with English professor Robert Daniel for whom he would later build the Daniel House in Knoxville, and Bruce Goff who was chair of the School of Architecture there. Fitzgibbon greatly admired Goff's work, describing it as some of the most elegant residential design he had ever seen. Fitzgibbon often had conversations and teaching debates with Goff. Like Goff, Fitzgibbon was also an accomplished painter. Fitzgibbon's design for the Daniel House was obviously influenced by Goff. Goff began to experiment with Quonset ribs in 1944, using them to build a chapel for the Navy Seabees at Camp Parks near San Francisco. In response to the post-war shortage of standard building materials, he used surplus Quonset ribs for a number of residences he designed following World War II. Goff once drew twenty alternative elevations for a basic plan in an effort to show the adaptability of Quonset ribs for standardized housing. His design for the Ruth Ford house in Aurora, Illinois, is an example of a Goff residential design using Quonset ribs.

In 1948, Fitzgibbon left the University of Oklahoma to help start the School of Design at North Carolina State College (now a university) in Raleigh. At this same time he was simultaneously at work on the design and construction of four houses. One was in New Mexico, two in Sewanee, South Carolina and the fourth was the Robert Daniel residence in Knoxville. He was assisted on this last project by architecture students David George and George Qualls, both of whom went on to become prominent architects. David George and George Qualls shared the job of resident construction superintendents for the summer of 1948 until David George returned to school and Qualls stayed on to complete the house. David George had spent the previous summer at Spring Green, Wisconsin studying with Frank Lloyd Wright and later practiced architecture in Texas. George Qualls is a principal in the prominent architectural firm of Geddes and Qualls in Philadelphia and has numerous successful commercial projects to his credit. George Saunders, whom

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Fitzgibbon described as a "perfect genius assistant," prepared the working drawings for the Daniel House. He later started an architectural practice in New Orleans and became a member of the Tulane University faculty.

On one of his trips between Oklahoma and Raleigh, Fitzgibbon met Buckminster Fuller and, in 1949, he became the Director of the International Fuller Foundation. Fitzgibbon's Fadum House in Raleigh was honored by *Architectural Record* as one of the Houses of the Year in 1952, but he was by then more interested in long-span buildings and geodesic systems. Fuller and Fitzgibbon formed Geodesics, Inc. in 1954. Two years later, Fitzgibbon designed and built the world's largest free-span structure, a 384-foot diameter geodesic dome, for the Union Tank Car facility in Baton Rouge, Louisiana. In 1957, Geodesics expanded to become Synergetics, Inc., an association of architects and engineers. A year later, Fitzgibbon bought Fuller out and served as president of Synergetics until 1968. During his tenure, Fitzgibbon oversaw the construction of hundreds of geodesic domes and other lightweight transportable structures around the world. He then moved to St. Louis to join the architecture faculty at Washington University.

Fitzgibbon designed and constructed buildings across the globe, and lectured and traveled widely with his wife, Margaret. Exhibitions of his paintings, drawings and architectural designs have been held in Taos, New Mexico; St. Louis; and at the Museum of Modern Art in New York City. His model for a Bridge City is part of the permanent collection there. He advised such enterprises as the New York World's Fair, The Ford Foundation, General Electric, the Department of Commerce, the Governments of Canada and Kuwait, and NASA.

James W. Fitzgibbon died in 1985 at the age of 70.

Architectural Significance

James Fitzgibbon's Daniel House was, at the time of its construction in the late 1940's, recognized as an innovative design as evidenced by its recognition in *Architectural Forum* magazine. But its uniqueness is also apparent to the eye of even the most architecturally naive observer. In a 1953 article in the Knoxville newspaper, an admittedly untrained local journalist described the house as looking "like nothing I had ever seen before -- a great mass of sheltering curves that seemed to hover over the site." From its earliest days, Knoxvillians referred to it as the "tree house," owing to Fitzgibbon's incorporation of a huge pine tree in his design. To this day, the house maintains its charisma for all who enter and even for those who simply slow down to stare as they drive past.

Fitzgibbon was, undoubtedly, influenced by Buckminster Fuller's and Frank Lloyd Wright's visionary organic style of architectural design. In his biography of Wright, Robert Twombly writes that, in the Usonian house, Wright achieved the unity of structure and site he desired by "merg[ing] entire rooms and floors. Continuity in his architecture manifests itself in the gradual opening up of vistas, in the consistent treatment of materials, in horizontal lines of expression, and in the organization and flow of space, especially from the outside in." These principles are evident in the design and siting of the Daniel House.

Fitzgibbon himself acknowledged the influence of renowned architect Bruce Goff, his friend and colleague at the University of Oklahoma. In a 1983 letter to Peter Calandruccio, the third owner and person who

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rehabilitated the house, Fitzgibbon wrote, "The [Daniel] house was much influenced by some of the most elegant residential work I had ever seen, a series of houses designed and built by Goff. ...I'd seen a Goff design where he used them [the Quonset ribs] in a dome shape, bringing them all together at zenith point." He goes on to say, "I followed another Goff detail. He liked to use glass with no surrounding wood or metal frame, letting the glass sheet drop into a prepared slot in the sill or the masonry wall at sill height. Going around a corner the detail is similar to a store window, glass to glass and held in place with a few clips, but no frame. I like this arrangement, a roof construction free of the walls, the walls rising or falling along their length and the connection between the two is the glass sheet."

But it was Fitzgibbon's own genius that led him to envision the final form of the Daniel House. On his first visit to the site, he determined to use the Quonset ribs, but in a linear design, cutting the house back into the hillside and having the ribs "waterfall down the . . . slope and make the essential roof" The easy availability of surplus Quonset ribs in the immediate post-war period, when other more traditional materials were scarce, must certainly have played a role in his decision to use them in his design. On this same visit, Fitzgibbon was amazed when he "first saw the scrap marble mountains at Vestal (The Candora Marble Company in the community of Vestal), acres of beautiful sliced marble broken into 2, 3 or 4 square foot fragments and decided on the spot that that would be the material [he]'d design the house with. . . .that marvelous marble could be piled up like packs of playing cards to make walls wherever we needed them. The marble was very reasonably priced as I remember, we paid fifty cents a truckload using our own truck and all we could get aboard. There are several hundred tons of cut marble sheet in that house, even the septic tank was built of marble."

The decision to use wormy chestnut, which even in 1948 was a rare and expensive wood, for the interior partitions, built-in cabinetry, and exterior siding on the upper level, may simply have been a matter of aesthetics. Certainly it adds to the beauty and uniqueness of the house.

In carrying out their renovations, both the Cantrells and the Calandruccios, whether accidentally or intentionally, have managed to retain the essential design elements and materials of the house as they were originally conceived by the architect. In 1983, having completed their rehabilitation of the house, the Calandruccios opened their home for public tours, with proceeds going to the local public radio station. To their great delight, James Fitzgibbon returned to Knoxville for the weekend to participate in the open house and pronounced his approval of their rehabilitation. Since 1993, when the current owners occupied the house, both George Qualls, who acted as the resident superintendent during the house's construction and went on to achieve renown as an architect in his own right, and Frank Smith, himself an architect and stepson of Robert Daniel and frequent visitor to the house during the Daniel's' residency, have returned to visit. Both men express great pleasure with the way the house has evolved.

The design and use of materials in the Daniel House is unique to Knoxville and, possibly, in all of Tennessee. Most residential design in the post World War II period in Tennessee consists of suburban neighborhoods composed of combinations of Colonial and Tudor revivals and Minimal Traditional styles. Individual houses also tend to be of Colonial or Tudor revival styles.

United States Department of the Interior

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Bibliography

Aston-Wash, Barbara. (1983, September 4). House of the 40's Timely in 80's. <u>Knoxville News Sentinel</u>. pp.F1, F16.

Calandruccio, Peter. (1986, June/July). James Fitzgibbon's Daniel House: Decline and Rebirth of a Masterwork in Steel and Stone. Fine Homebuilding, pp.24-30.

Conroy, Sarah Booth. (1953, June 7). Marble, Steel and Glass Used in One of Most Unusual Homes. Knoxville News Sentinel. p. C.

Fitzgibbon, James W. (1982). Letter

Qualls, George W. (1997, April 19). Telephone Interview.

Smith III, Frank H. (1997, April 19). Telephone Interview.

Somer, Robin Langley. (1993). <u>Frank Lloyd Wright: American Architect for the Twentieth Century</u>. New York: Smithmark Publishers, Inc.

Trust Deed Book 1532. (1962, July 20). p. 890. Knox County, TN.

Trust Deed Book 1550. (1975, February 19). p. 790. Knox County, TN.

Warranty Deed Book 1172. (1961, May 1). p. 47. Knox County, TN.

Warranty Deed Book 1774. (1982, December 7). p. 34. Knox County, TN.

Warranty Deed Book 2123. (1993, November 8). p. 487. Knox County, TN.

Waugh, Edward, & Waugh, Elizabeth. (1960). The South Builds. Chapel Hill: UNC Press.

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National Park Service

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Verbal Boundary Description

The nominated property includes all of parcel 13 on Knox County tax map 122-G.

Verbal Boundary Justification

The National Register boundary for the Daniel House includes all of the property currently associated with the house.

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Daniel House Knox County TN

Photo Log

Daniel House 2701 Woodson Drive Knoxville, Knox County, Tennessee Photo by: Charles Williams

Date: April 1997 Neg: Property owner

View from street, facing southwest # 1 of 17

Entry, south and west elevations, facing northeast # 2 of 17

North and east elevations, facing southwest #3 of 17

Patio, north elevation, facing south # 4 of 17

Detail of ribs, facing northerly # 5 of 17

North elevation, facing south # 6 of 17

Detail of stone work, facing east # 7 of 17

Detail of ribs, stone work, and windows, facing north #8 of 17

Living area, facing north # 9 of 17

Loft storage, facing south towards garage # 10 of 17

Interior stair, facing north # 11 of 17

Den, facing south # 12 of 17

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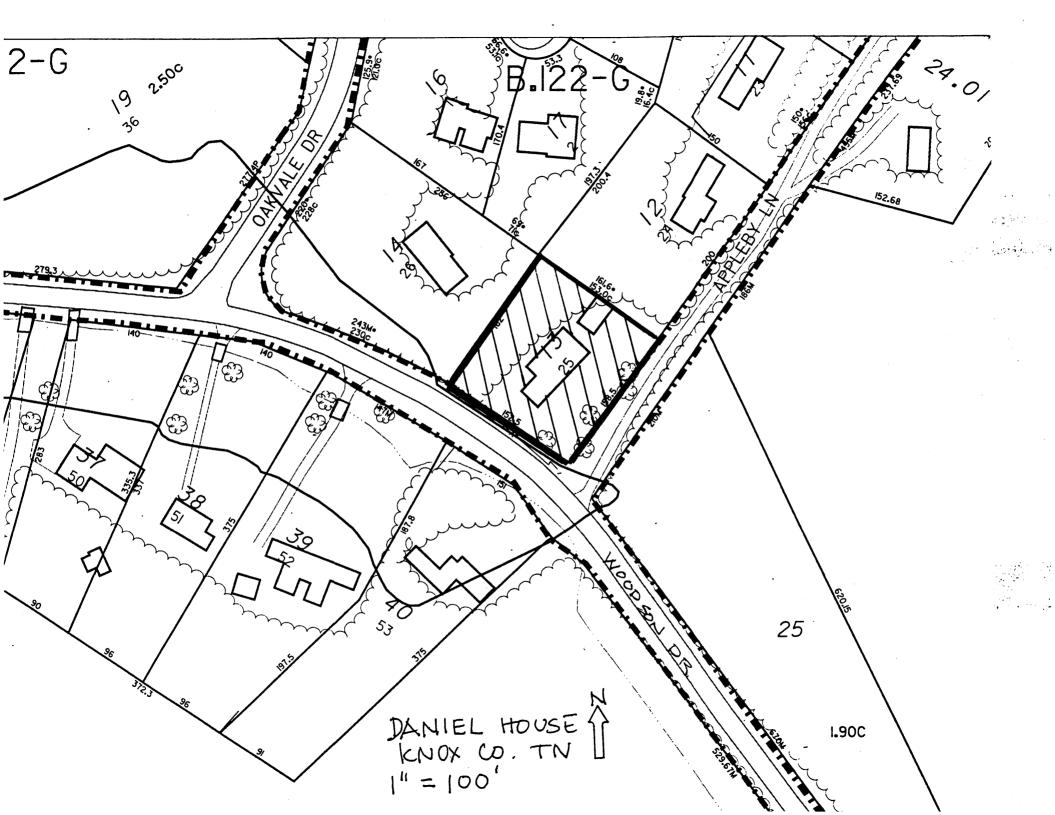
Living area, facing north # 13 of 17

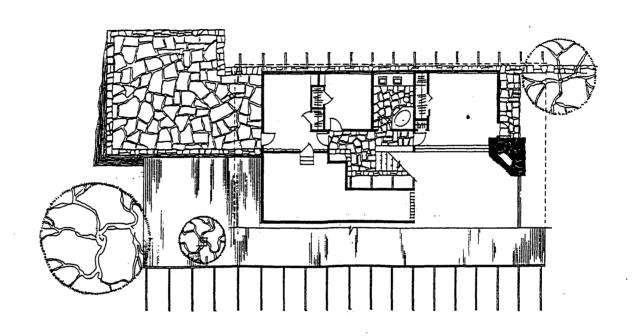
View of living area from second story, facing southeast # 14 of 17

Dining area, facing south # 15 of 17

From kitchen, looking to addition of 1962 # 16 of 17

Bedroom, facing southwest # 17 of 17





DANIEL HOUSE KNOX CO. TH

2NIS FLOVE 1962 REMOVATION

