

HOUSE PLAN NO. FS-SE-7 7-7-70
UNITED STATES DEPARTMENT OF AGRICULTURE-FOREST SERVICE
A ROUND HOME OF WOOD

This circular floor plan of 1400 sq. ft. illustrates efficient utilization of space with 3 bedrooms, 2 baths, family room, combined living-dining-kitchen area, and a large atrium or multipurpose room. The design is a major revision of the earlier, popular round house (FS-SE-5).

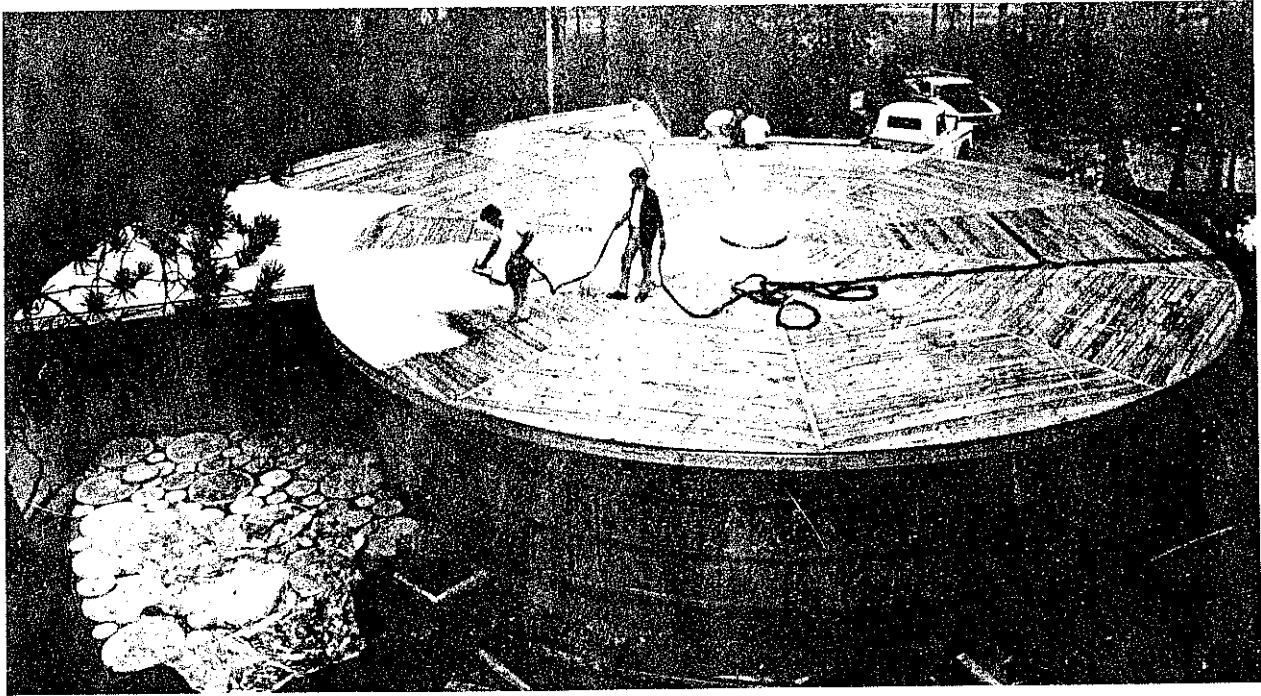
This design is one of several produced by a research program currently underway at the Southeastern Forest Experiment Station, Forest Service, U.S. Department of Agriculture. The objective of this program is to develop designs and construction techniques leading to more

efficient use of wood and wood products in housing for low- and middle-income families.

A home of the new design (FS-SE-7) was built by the designer in Athens, Georgia, in 1970. Actual construction cost was about \$14,000, exclusive of land, site development, and financing charges. This home is better insulated than FS-SE-5, and has a roof overhang to protect and shade the exterior walls.

FLOOR SYSTEM

A circular concrete slab is placed within a concrete block or brick foundation



ROOF DECKING AND EXTERIOR WALL CONSTRUCTION

wall with a treated lumber nailing strip fastened on the perimeter. Gravel fill, moisture barrier, perimeter foundation insulation, and soil poisoning for termites should be provided where needed. Heat ducts may also be installed during slab construction.

EXTERIOR WALLS

The exterior walls consist of an inner and outer skin of 1-inch vertical tongue-and-grooved boards, separated by 1-inch thick horizontal plywood bands, 2 feet apart, with insulation in the wall cavities. The walls are prefabricated in modular panels 4 feet wide. One-inch resawn softwood lumber is suggested for both wall surfaces with the rough side exposed. The plywood bands are two layers of 1/2-inch plywood. This provides a one-inch horizontal space in the wall for insulation and electrical wiring.

Wall panels are partially fabricated by nailing the plywood bands to one layer of boards (inside surface) in a jig that matches the wall curvature. These panels are placed on the foundation and nailed to the perimeter wood strip. The complete roof is then installed before the window and door openings are made, insulation and electrical wiring are placed, and exterior boards are nailed to the bands. Insulation may be of 1-inch foamed polystyrene slabs or polyurethane foam applied to the exposed

wall cavities at the same time the roof insulation is applied. It would also be possible to prefabricate the complete wall panel, but it would require a more complicated jig. If complete wall panels are prefabricated, pour-type polyurethane foam or polystyrene foam slabs could be used to fill the wall cavity.

INTERIOR (ATRIUM) WALLS

These walls can be built the same way as the exterior walls, but with no insulation.

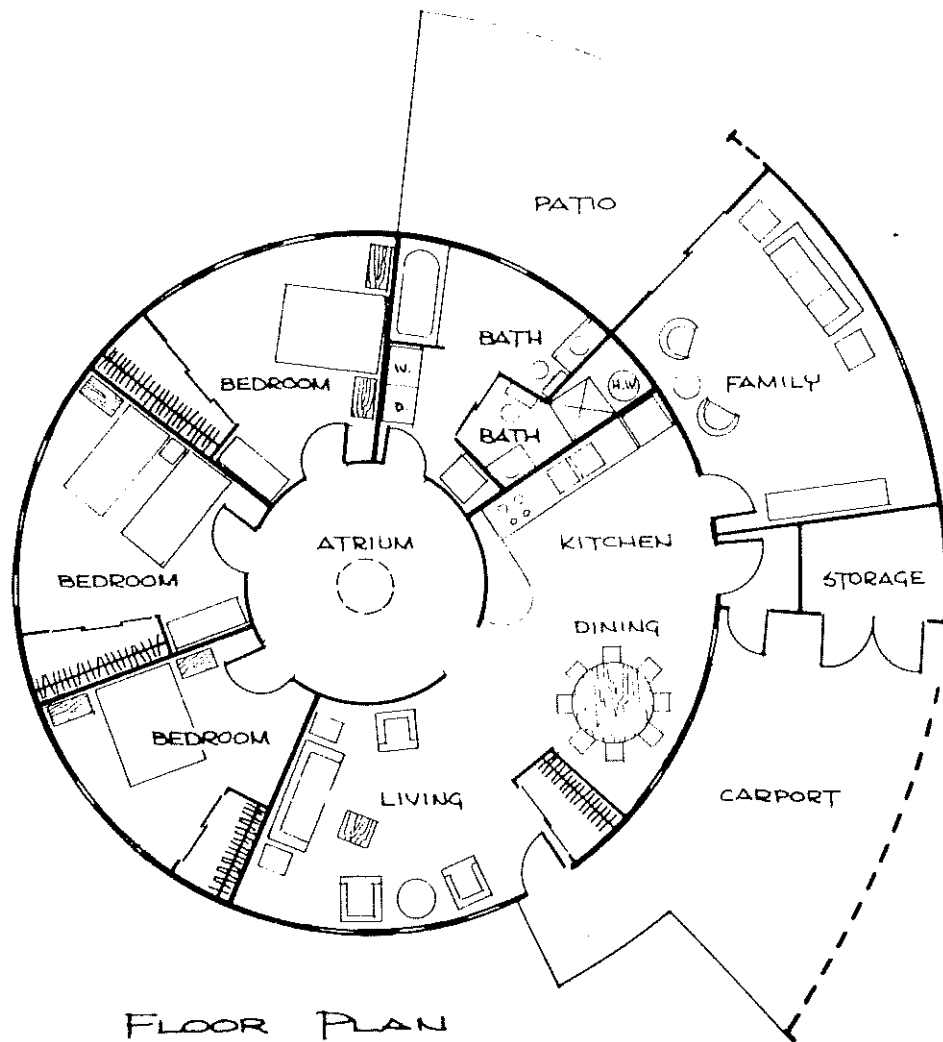
ROOF SYSTEM

Nail-laminated 5x6-inch radial beams are nailed into slots in the inner and outer walls, and 1x6 T&G decking is installed. Rigid foamed-in-place polyurethane insulation is applied directly to the exterior surface of the decking, and the surface of the foam is covered with a suitable roof coating to protect it from ultraviolet light. The coated urethane foam provides excellent waterproofed insulation without the need for conventional roofing.

The beams and decking are exposed and when stained make an attractive and economical ceiling. The skylight over the atrium provides this interior room with natural light. Additional skylights may be placed over the utility area and the kitchen sink.

PARTITION WALLS

The partition walls are of single-layer particleboard panels that fit into slots in



FLOOR PLAN

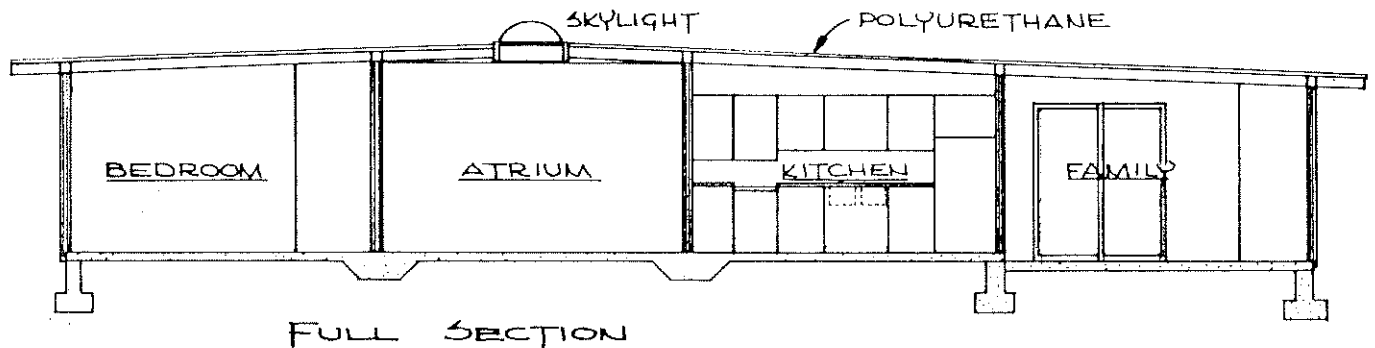
the roof beams and 2x2 foot plates. Frame partitions are used only as bathroom walls to conceal the plumbing. The particleboard walls can easily be relocated or removed if desired. All radial walls are non-bearing.

DOORS AND WINDOWS

Window and door openings are cut into the walls after erection. The doors are unique in that they have the same curvature as the walls. They are made on the site

from the cut-out section of the prefabricated walls, and are fitted into the openings without conventional trim, door jambs, and door stops. Flat doors can also be used with conventional framing and trim.

Windows may be of aluminum or wood, and installed without trim. In the prototype home built in Athens, a wood casement window was nailed directly into the cut-out openings, with the wood jamb projecting out from the wall to provide an attractive relief effect.



FULL SECTION

MECHANICAL SYSTEMS

Any conventional heating system can be installed. In the Athens prototype, a forced-air furnace was used. Floor registers were connected to heat ducts, previously installed in the slab.

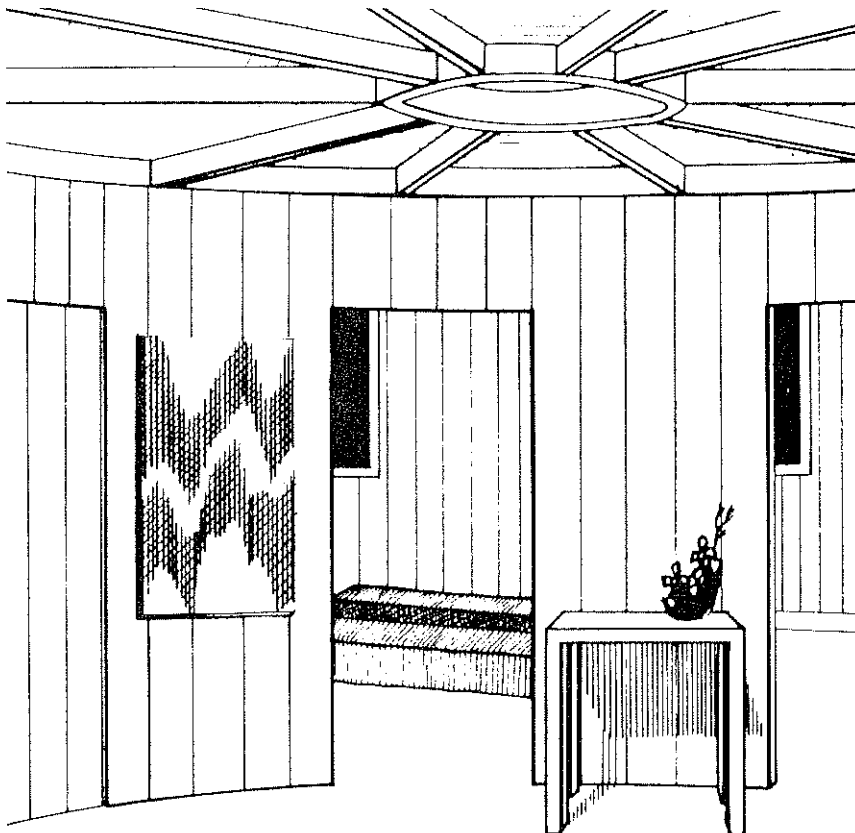
Electrical wiring is easily installed in the raceways along the top of the curved walls and above the radial beams. Wiring is also placed in the curved walls before the outer layer of board paneling is applied.

CODE ACCEPTANCE AND TECHNICAL ASSISTANCE

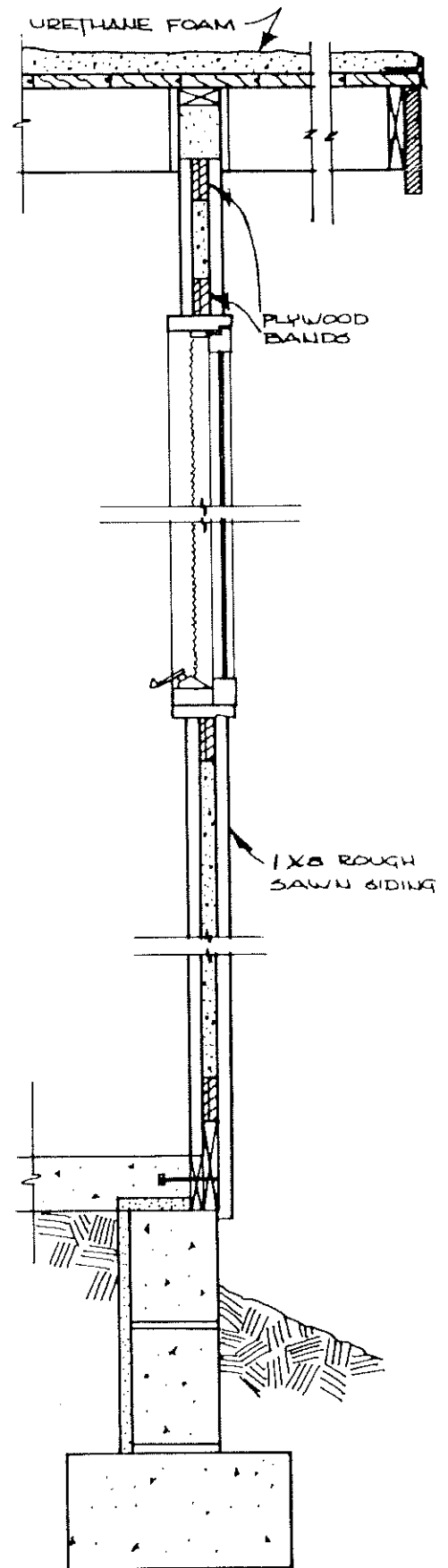
Certain experimental features of this design may not meet the requirements of all building codes. Builders should confer with local code officials to determine the applicability of this design for the particular area in which the house is to be built.

Detailed plans and specifications for this home are available without charge from: Housing Research, Forestry Sciences Laboratory, Carlton Street, Athens, Georgia, 30601.

DESIGNED BY HAROLD F. ZORNIG



VIEW THROUGH ATRIUM



EXTERIOR WALL SECTION

A ROUND HOME OF WOOD (PLAN FS-SE-7)

This design is one in a series for low-cost wood homes developed by the Housing Research Unit at the Forestry Sciences Laboratory, Forest Service, U.S. Department of Agriculture, Athens, Georgia, which is a unit of the Southeastern Forest Experiment Station, Asheville, North Carolina. The mission of this research is better utilization of wood products in housing.

This design is a modification of an earlier design for a round home of wood (FS-SE-5). Featured in the new home is an improved wall construction, better insulation, and a roof overhang. This larger design should appeal to families of moderate income. The basic structural system can also be adapted for other types of buildings.

Because it is to be erected on a circular concrete slab, this home must be built on a flat site. However, if the proposed building site is not flat, a wood floor system can be substituted.

The house contains three bedrooms, two baths, family room, and combined living-dining-kitchen area in 1400 square feet of living area, plus a useful carport storage area. In addition, the enlarged central atrium or hall can be used as a multipurpose room, thus providing additional living space for sewing and ironing, a nursery, game room, art studio, or solarium. The large skylight provides the area with good natural lighting.

In developing this design, many economical features were used to help reduce the cost of the home. Unnecessary trim was omitted, single-layer material was used for non-bearing partitions without other framing, and hallways were eliminated. Additional labor costs were reduced by prefabricating the curved walls in four-foot-wide panels. Exposed wood is stained to show the wood grain and texture, to provide a durable, easy-to-maintain surface, and to reduce costs.

Unique Design Features

1. Circular walls are prefabricated in a simple jig by nailing narrow plywood bands horizontally to vertical 1x8 paneling. Two layers of half-inch plywood are used to make each one-inch thick

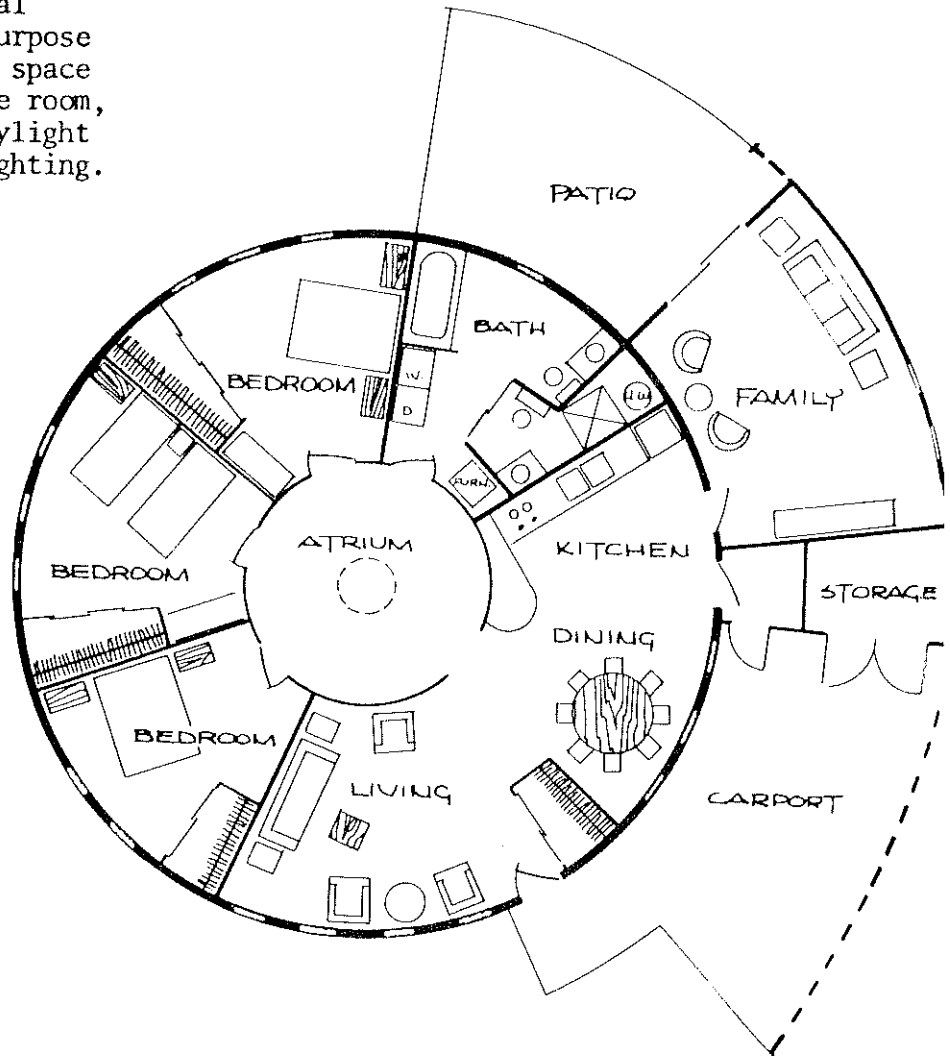
plywood band. These bands are spaced two feet apart to tie the wall together and provide a space for insulation and wiring.

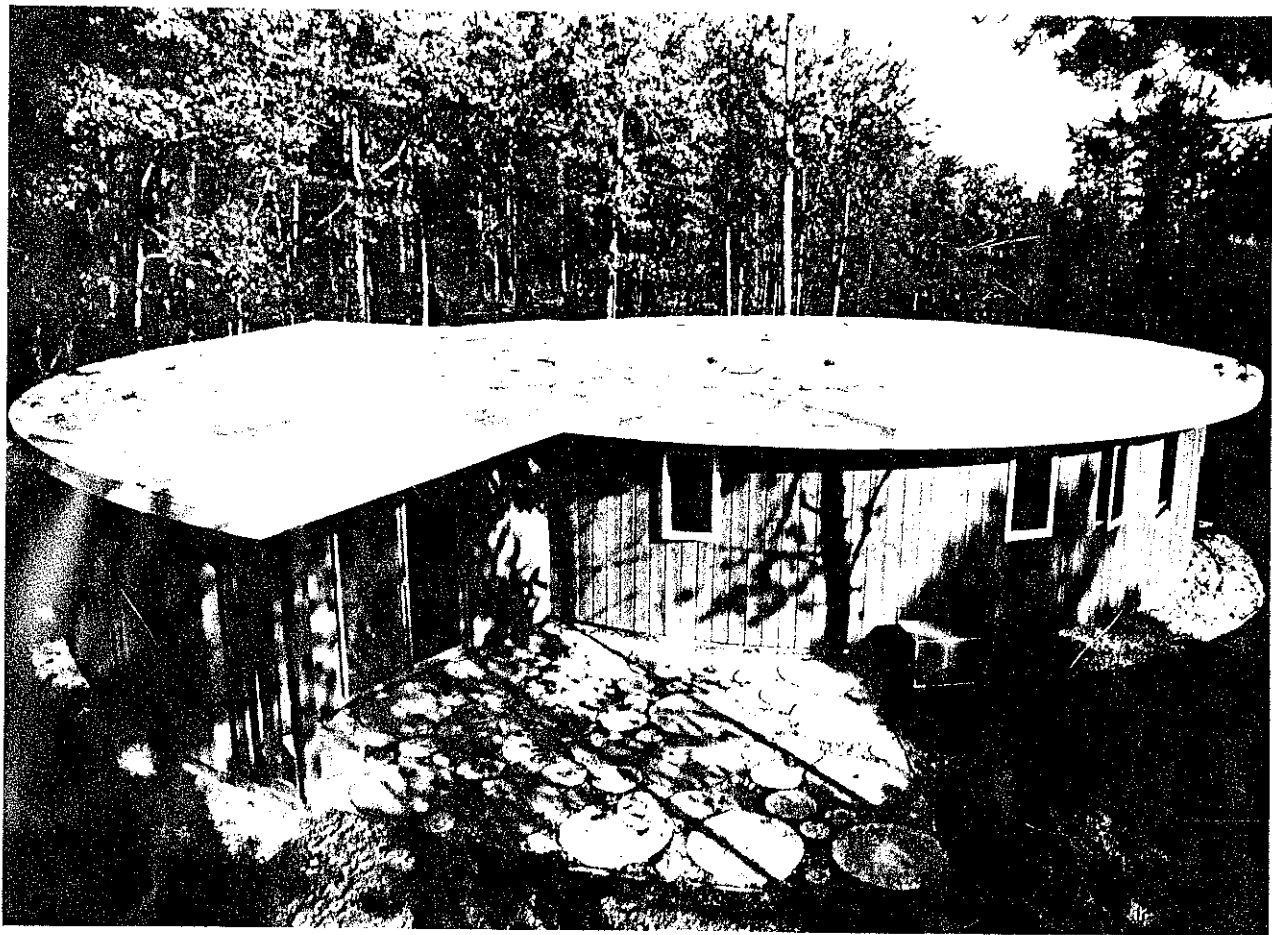
2. The radial roof beams are nail-laminated and provide a raceway for electrical wiring.

3. Foamed-in-place rigid polyurethane foam is sprayed on the single-layer one-inch wood decking covering the roof beams. This foam provides excellent thermal insulation and leaves the underside of the decking exposed for an attractive beamed ceiling. The foam provides a durable and fire-safe roof when covered with a surface coating recommended by the foam manufacturer.

4. The same 1x8 southern pine or other softwood boards, with tongue-and-grooved, bevelled edges, are used for inside and outside paneling on all circular walls and the roof decking. Boards can have an attractive rough-sawn or a smooth planed surface.

5. Interior partition walls, except plumbing walls, are single-layer, 3/4-inch-thick particleboard or plywood. These panels, installed without framing, are





fastened to the roof beams and a grooved 2x2 sill plate. Since all radial partitions are non-bearing, they can be moved to provide various room arrangements.

6. Doors are made by sawing openings in the curved walls. The cutouts are then used as the doors. Open spaces around the door openings and in door edges are filled with plywood strips, and doors are installed with conventional hardware. Door jambs, stops, and trim are not needed.

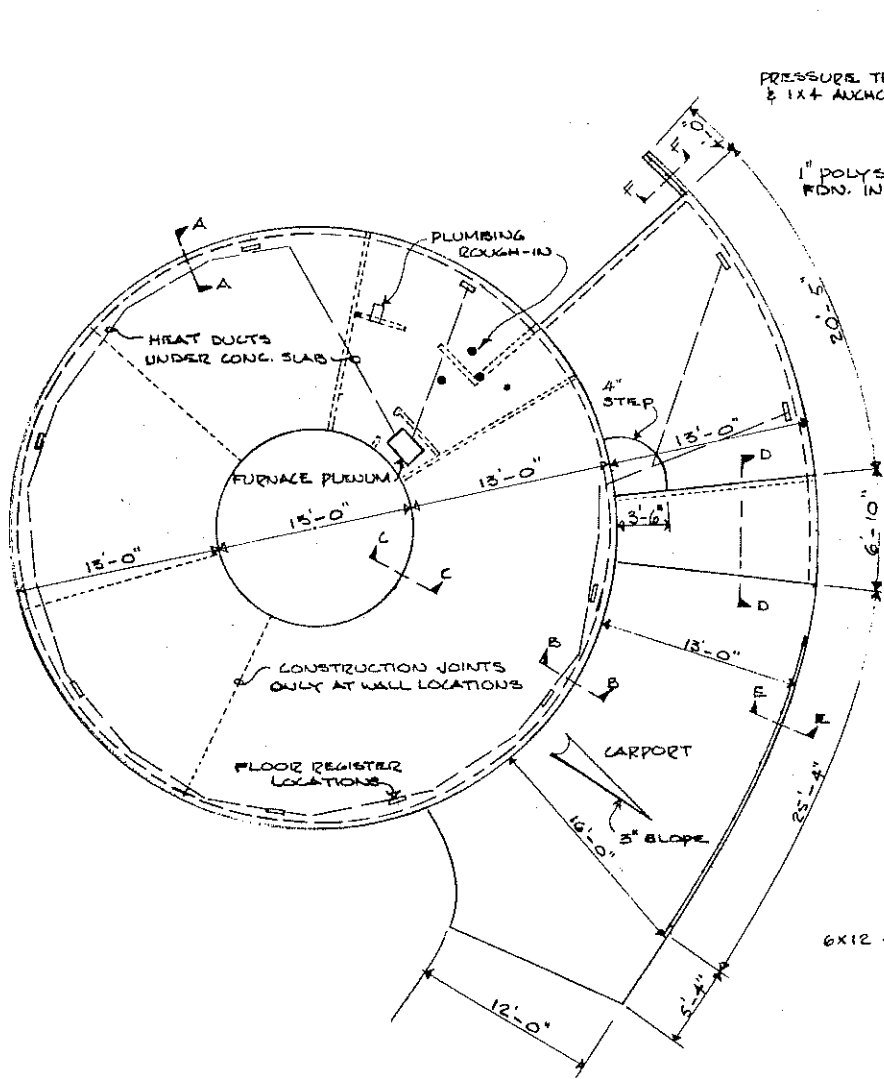
The illustrated home was privately constructed from this design in 1970 by the designer in Athens, Georgia. Based on actual construction experience and results of limited laboratory load tests on the walls, it is believed that this is a practical, economical, and structurally sound design. Construction cost in 1971 is estimated at \$14,000, exclusive of land and site development.

The Housing Research Unit in Athens is not an architectural design agency, but has developed a series of house designs to illustrate how modern wood products and new

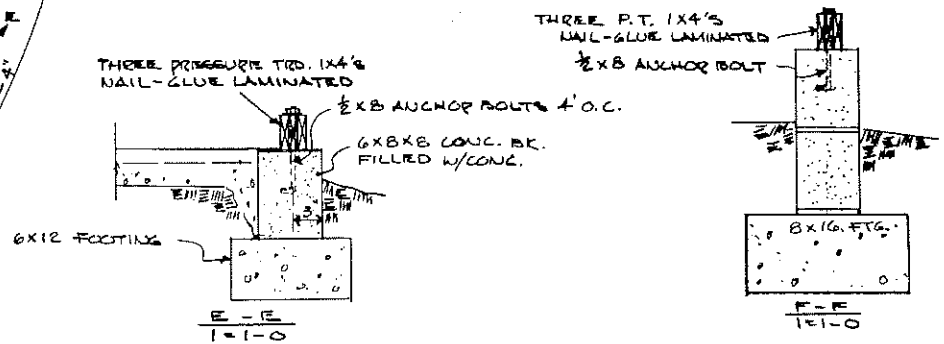
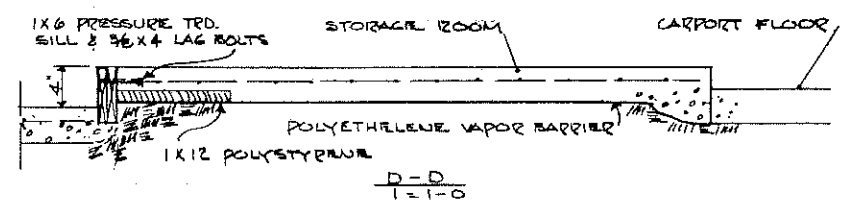
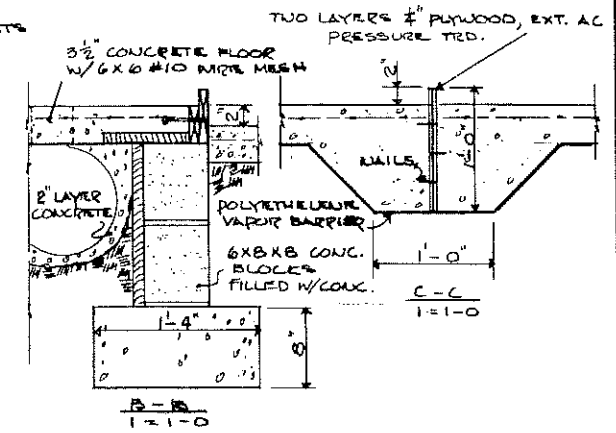
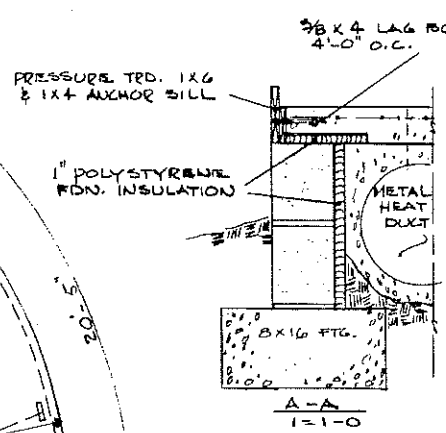
methods of construction can reduce building costs and improve performance. Many ideas incorporated in the designs are based on previous research and development in wood utilization at various Forest Service, university, and industrial laboratories. It is hoped that designers and builders will use the basic concepts in future designs, making modifications as needed. The Athens unit is not able to provide design modifications nor is it involved in actual building, approving, financing, or other non-research activities.

Although the design is believed safe and adequate for most of the country, local building authorities should be consulted regarding design consideration and construction approval.

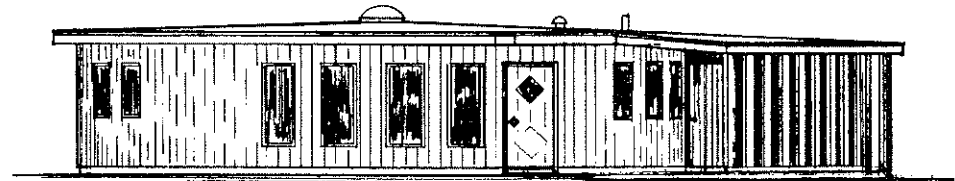
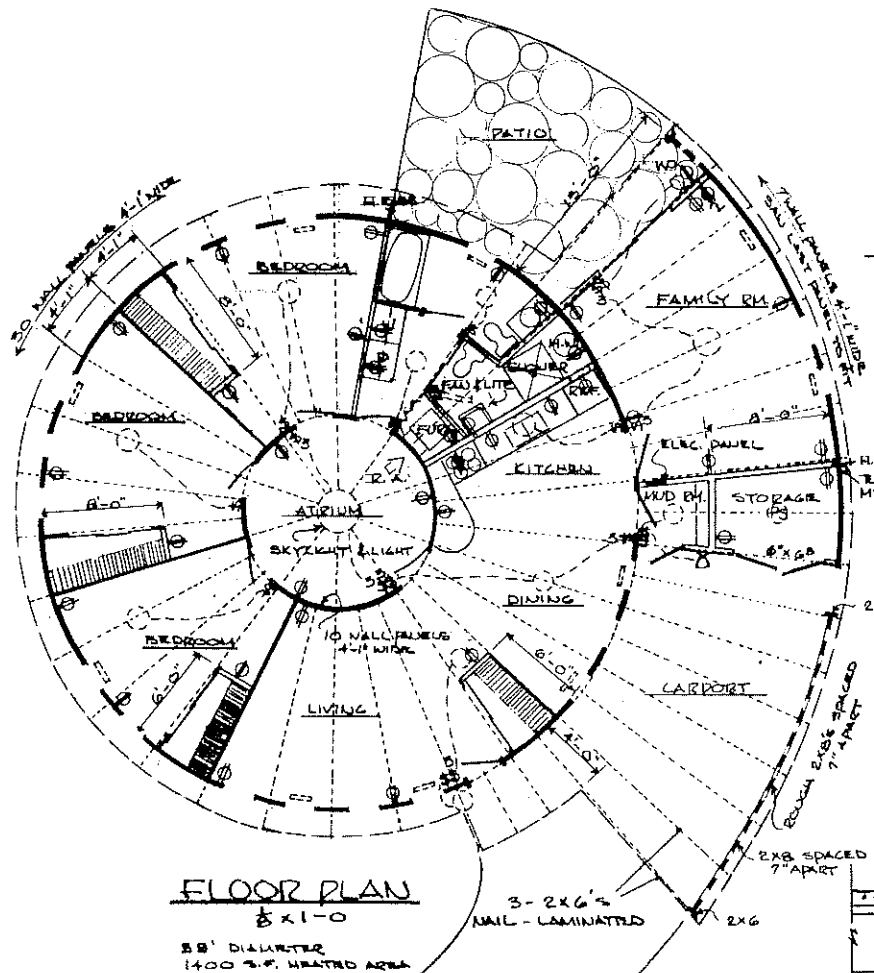
Technical questions about the design can be answered by the Housing Research Unit, Forestry Sciences Laboratory, Carlton Street, Athens, Georgia, 30601, (404) 546-2445. Reasonable assistance within the limitations of the staff will be given to prospective builders.



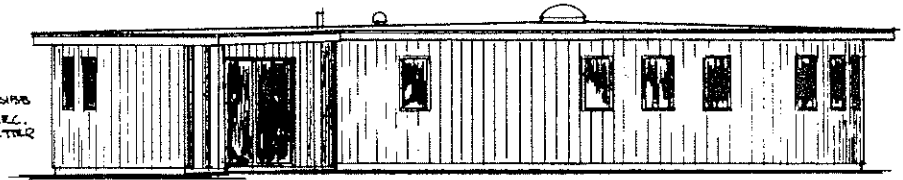
FOUNDATION & CONCRETE FLOOR PLAN
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HOUSE PLAN NO. FS-55-7	
U.S. DEPARTMENT OF AGRICULTURE	SHEET 1 of 4
A ROUND HOME OF WOOD	FDN. PLAN & SECTIONS
FORESTRY SCIENCES LAB, HOUSING RESEARCH	BY: H.F. ZORNIG
SOUTHEASTERN FOREST EXPERIMENT STATION	JULY 7, 1970
FOREST SERVICE, ATHENS, GEORGIA	

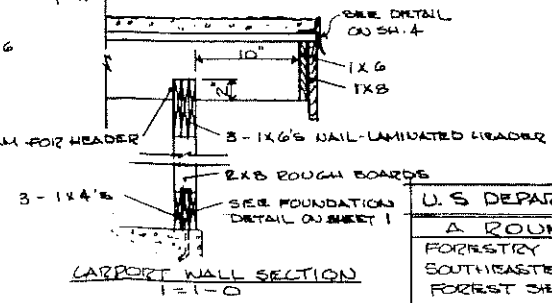


FRONT ELEVATION
 5-1-0



BACK ELEVATION
 5-1-0

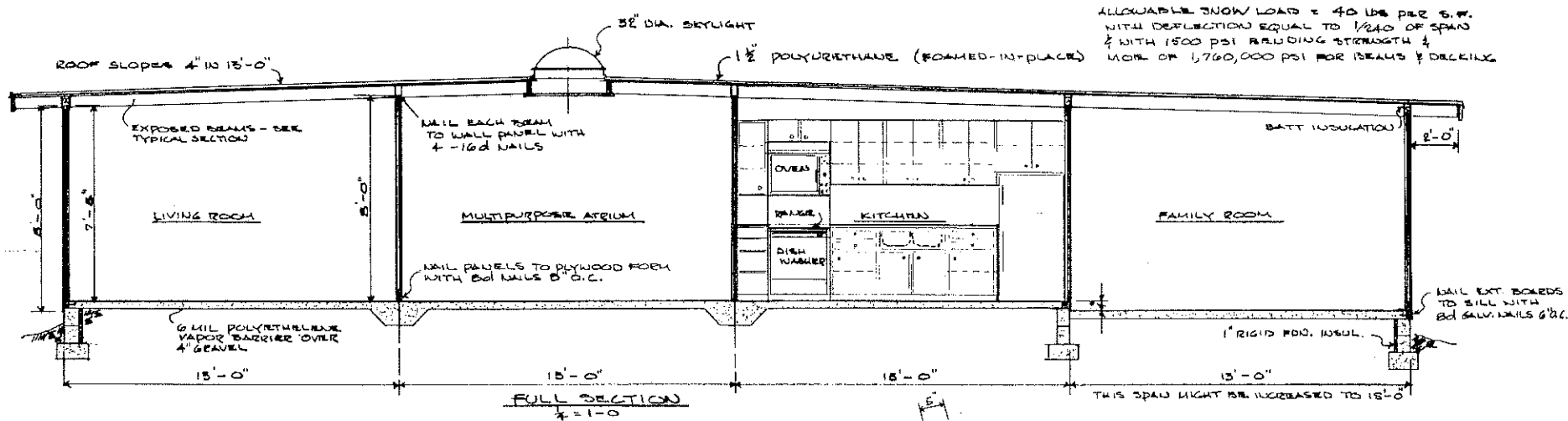
WINDOW SCHEDULE	DOOR SCHEDULE
14 - SINGLE LITE WOOD CASEMENT WITH SCREENS 20' x 5'	1 - SOLID EXTERIOR DOOR 50' x 60" (STRAIGHT)
4 - DOUBLE GLAZED FIXED CLASS WINDOWS 20' x 50"	1 - " " " 28' x 60" "
1 - ACRYLIC PLASTIC SKYLIGHT WITH SEPARATE CEILING PANEL 32 INCH DIAMETER	3 - " INTERIOR " 20' x 60" "
OPTIONAL: 14x14 SKYLIGHT OVER WASHING MACHINE & DRYER & 12x12 SKYLIGHT OVER KITCHEN SINK	2 - " " " 28' x 60" (CURVED)
	5 - " " " 20' x 60" "
	2 - LOUVERED SLIDING DOORS 60' x 60"
	1 - " " DOOR 60' x 60"
	1 - SOLID " " 60' x 60"
	1 - LOUVERED FOLDING DOOR 30' x 60"
	1 - SLIDING DOOR 40' x 60"
	1 - CARPORT STORAGE DOOR 60' x 60"
	1 - ALUMINUM SLIDING DOOR, WITH TEMPERED INSUL. GLASS & SCREENS 60' x 60"



HOUSE PLAN NO. FS-SR-7
 U.S. DEPARTMENT OF AGRICULTURE
 FORESTRY SCIENCES LAB, HOUSING RESEARCH
 SOUTHEASTERN FOREST EXPERIMENT STATION
 FOREST SERVICE, ATHENS, GEORGIA

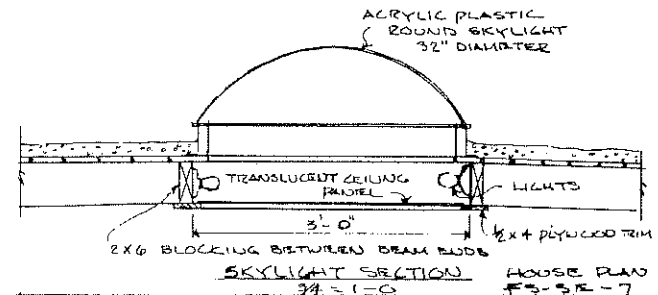
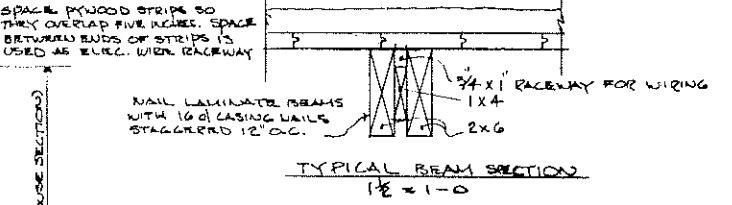
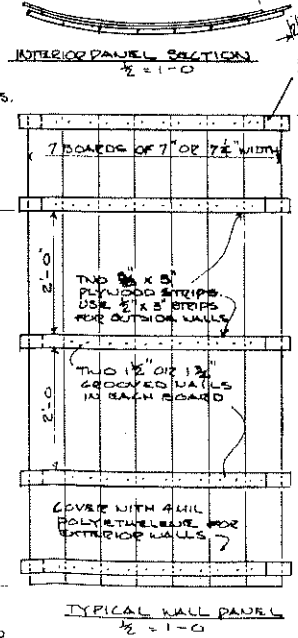
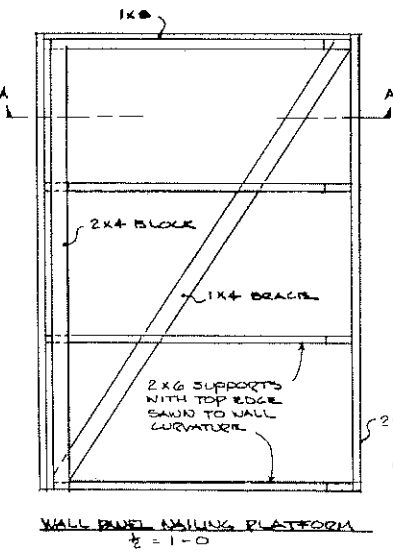
PLAN & ELEVATIONS
 BY: W. F. ZORNIG
 7-9-70

SHEET 2 of 4



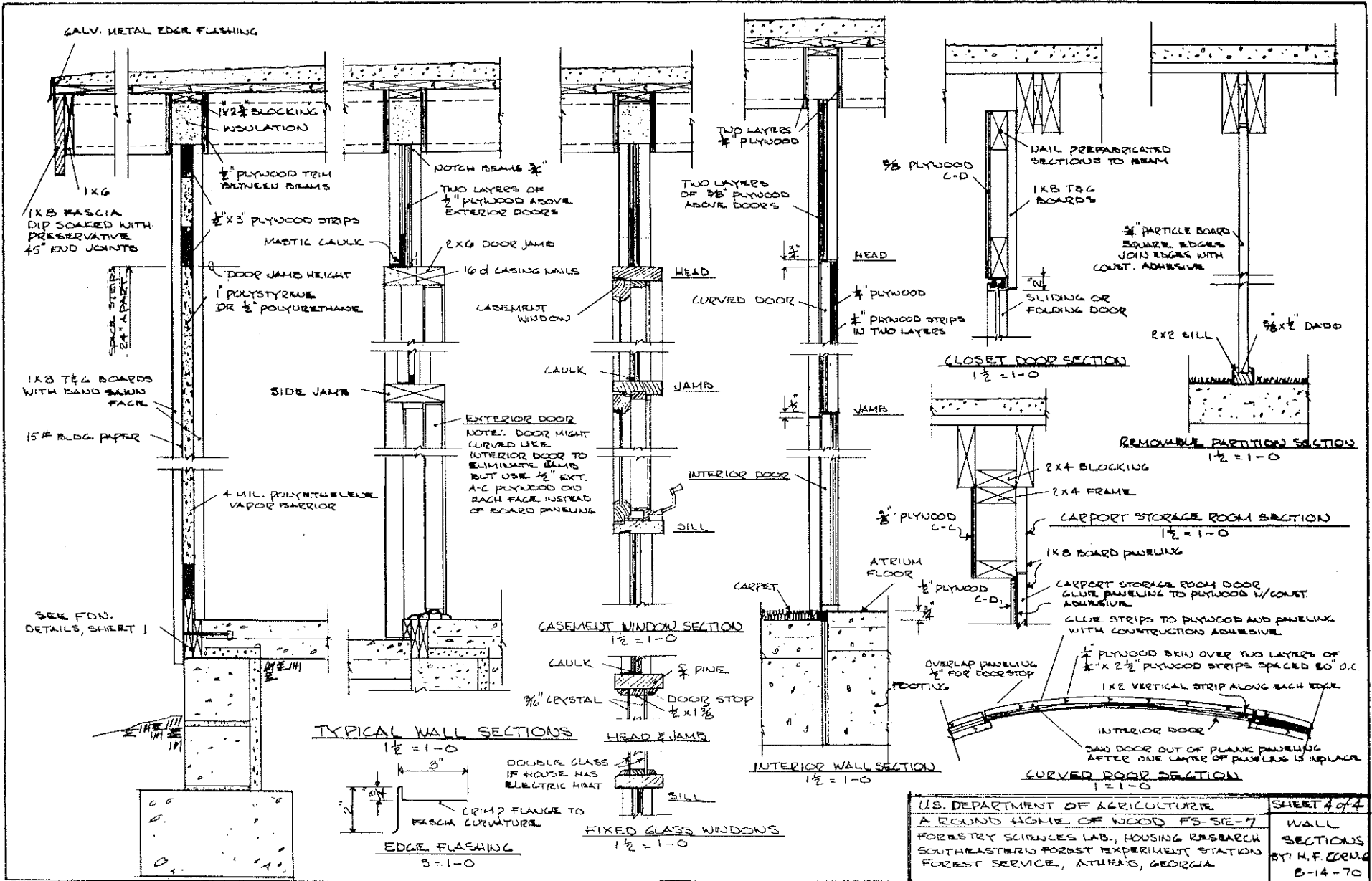
CONSTRUCTION NOTES

1. BUILD TWO NAILING PLATFORMS, 13' DIA. CURVATURE FOR ATRIUM WALLS AND 30' DIA. CURVATURE FOR EXT. WALLS. USE EXT. WALL PLATFORM FOR FAMILY ROOM EXT. WALL.
2. ERECT SINGLE LAYER WALL PANELS, PLACE ROOF BEAMS, ROOF DECKING AND ROOFING BEFORE PLACING INSULATION AND SECOND LAYER OF PANELING. CUTOUTS FOR DOORS AND WINDOWS SHOULD BE MADE AFTER ALL PANELS HAVE BEEN ERECTED.
3. AFTER CUTOUTS ARE MADE, INSTALL ALL ELECTRICAL WIRING, 1" THICK POLYSTYRENE INSULATION, 15' 16. BUILDING PAPER AND SECOND LAYER OF PANELING. USE TWO B.D. GALV. NAILS PER BOARD AT THE PLYWOOD STRIPS.



THE SAME NAILING PLATFORM IS USED FOR EXTERIOR WALLS BY NAILING NEW CURVED SUPPORTS WITH 30' DIA. CONVEX CURVATURE TO ORIGINAL SUPPORTS WITH 15' DIA. CONCAVE CURVATURE.

U.S. DEPARTMENT OF AGRICULTURE	SHEET 3 of 4
A ROUND HOME OF WOOD	SECTION & DETAILS
FORESTRY SCIENCES LAB, HOUSING RESEARCH	BY: H.F. ZORNAC
SOUTHEASTERN FOREST EXPERIMENT STATION	8-6-1970
FOREST SERVICE, ATHENS, GEORGIA	



U.S. DEPARTMENT OF AGRICULTURE A ROUND HOME OF WOOD F'S-5E-7 FORESTRY SCHEDULES LAB., HOUSING RESEARCH SOUTHEASTERN FOREST EXPERIMENT STATION FOREST SERVICE, ATHENS, GEORGIA	SHEET 4 of 4 WALL SECTIONS BY H. F. COOPER 8-14-70
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MATERIALS LIST
HOUSE DESIGN FS-SE-7

THIS ABBREVIATED MATERIALS LIST WAS PREPARED AS A GUIDE FOR COST ESTIMATING AND PURCHASING. MENTION OF COMMERCIAL PRODUCTS AND SOURCES DOES NOT CONSTITUTE AN ENDORSEMENT OF SUCH PRODUCTS BY THE FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, TO THE EXCLUSION OF OTHER EQUALLY ACCEPTABLE PRODUCTS.

1. FOOTINGS, FOUNDATIONS, FOUNDATION INSULATION, SILLS, AND CONCRETE FLOORS:

38 CU. YDS. CONCRETE
550 - 6 X 8 X 8 CONCRETE BLOCKS
10 BAGS MORTAR MIX
1 CU. YD. MORTAR SAND
3 ROLLS 6 X 6 10 GAUGE REINFORCED MESH
2 ROLLS 16 FT. WIDE .006 POLYETHELENE
22 SHEETS 2 X 8 ONE-INCH THICK POLYSTRENE
50 - 3/8 X 4 LAG BOLTS
10 - 1/2 X 8 ANCHOR BOLTS
2 - GALS. CHLORDANE FOR SOIL TREATMENT
3 - 1/4 X 4 X 8 AC PLYWOOD, EX., FOR ATRIUM CONCRETE FORM, TREATED
1 - 1/2 X 4 X 8 CD PLYWOOD, EXT. GLUE, PLENUM CONCRETE FORM
20 - 1 X 4 - 12' NO. 2 SP*, TREATED, SILL PLATES
18 - 1 X 6 - 14' NO. 2 SP, TREATED, SILL PLATES
3 - 1 X 4 - 16' NO. 2 SP, TREATED, CARPORT SILLS
3 - 1 X 4 - 10' NO. 2 SP, TREATED, CARPORT SILLS
3 - 1 X 6 - 14' NO. 2 SP, TREATED, CARPORT HEADER
3 - 1 X 6 - 16' NO. 2 SP, TREATED, CARPORT HEADER

*SP - SOUTHERN PINE

2. WOOD PRODUCTS FOR WALLS, BEAMS AND ROOF DECKING:

4 - 2 X 6 - 10' NO. 2 SP, WALL FORMS
4 - 2 X 6 - 16' NO. 2 SP, WALL FORMS
1 - 2 X 4 - 16' NO. 2 SP, WALL FORMS
6 - 1 X 4 - 16' NO. 2 SP, BRACING
8 - 2 X 4 - 12' NO. 3 SP, STAKES
2500 B.F. - 1 X 6 NO. 2 SP, AIR DRIED 16%, SIS, CMV DECKING
4600 B.F. - 1 X 8 NO. 2 SP, AIR DRIED 16%, SIS, CMV WALL PANELING
3 - 2 X 6 - 16' ROUGH, MILL RUN, CARPORT WALL
8 - 2 X 8 - 16' ROUGH, MILL RUN, CARPORT WALL
14 - 2 X 6 - 20' NO. 1 SP, BEAMS
8 - 2 X 6 - 18' NO. 1 SP, BEAMS
36 - 2 X 6 - 16' NO. 1 SP, BEAMS
40 - 2 X 6 - 14' NO. 1 SP, BEAMS
48 - 1 X 4 - 16' NO. 2 SP, BEAMS
75 - 2 X 4'S, FIR OR SPRUCE, PRECUT STUDS, CONST. GR., WALLS
4 - 2 X 4 - 16' FIR, SPRUCE, CONST. GR., WALLS
9 - 1 X 8 - 14' SP, C & B, TOXIC DIPPED, FASCIA

2. WOOD PRODUCTS FOR WALLS, BEAMS AND ROOF DECKING CONT'D:

- 6 - 1 X 8 - 12' S.P., C & B, TOXIC DIPPED, FASCIA
- 7 - 1 X 6 - 14' S.P., C & B, TOXIC DIPPED, FASCIA
- 6 - 1 X 6 - 12' S.P., C & B, TOXIC DIPPED, FASCIA
- 4 - 2 X 2 - 14' FIR, D & B, PARTITION SILL
- 4 - 2 X 2 - 16' FIR, D & B, PARTITION TRIM
- 12 - 3/4 X 4 X 8 SHEETS PARTICLEBOARD, NON-BEARING PARTITIONS
- 14 - 1/2 X 4 X 8 SHEETS CD PLYWOOD, EXT. GLUE, WALL STRIPS
- 5 - 3/8 X 4 X 8 SHEETS CD PLYWOOD, EXT. GLUE, WALL STRIPS

3. WOOD PRODUCTS FOR INTERIOR FINISH, SHELVING, AND PREFABRICATED DOORS:

- 2 - 1 X 12 - 16' SHELVING GRADE PINE, SHELVES
- 2 - 1 X 12 - 12' SHELVING GRADE PINE, SHELVES
- 2 - 1 X 12 - 10' SHELVING GRADE PINE, SHELVES
- 4 - 5/4" WINDOW JAMBS, FIXED WINDOWS
- 1 - 5/4" DOOR JAMB, FRONT DOOR
- 1 - 5/4" DOOR JAMB, BATHROOM DOOR
- 7 - 3/8 X 4 X 8, CD PLYWOOD, EXT. GLUE, CARPORT STORAGE FINISH AND DOORS
- 5 - 1/2 X 4 X 8, AC PLYWOOD, EXT. GLUE, TRIM BETWEEN BEAMS
- 12 - 1/4 X 4 X 8, AC PLYWOOD PREFABRICATED DOORS AND TRIM BETWEEN BEAMS
- 6 - PIECES 1-3/8 X 10 DOOR STOP
- 50 FT. 1-INCH COVE MOLD

4. NAILS:

- 50 LBS. 8D GALV. BOX, WALL PANELING
- 50 LBS. 8D CEMENT COATED COMMON, ROOF DECKING
- 20 LBS. 16D BOX, BEAM ANCHORAGE AND FRAMING
- 20 LBS. 16D CASING, BEAMS AND JAMBS
- 20 LBS. 1-1/2-INCH ANNULAR-GROOVED, PLYWOOD STRIPS
- 5 LBS. 8D CASING
- 2 LBS. 6D FINISH
- 3 LBS. 4D FINISH
- 20 LBS. DRYWALL NAILS
- 2 LBS. - 2-1/2-INCH MASONRY NAILS
- 1 LB. ROMEX STAPLES
- 2 BOXES 1/4" STAPLES FOR STAPLE GUN

5. ROOFING:

- 2000 SQ.FT. URETHANE FOAM, 1-1/2-INCHES THICK, SELF-EXTINGUISHING, 2 LB/CU.FT. DENSITY (SEE SPECIFICATIONS)
- 180 FT. GALV. METAL DRIP EDGE
- 3 ROLLS 1-1/2-INCH PAPER MASKING TAPE

6. WALL INSULATION:

1152 SQ.FT. OF RIGID INSULATION - EITHER 1-INCH
POLYSTYRENE OR 1/2-INCH POLYURETHANE
3 ROLLS OF 15 LB. FELT IF POLYSTYRENE IS USED
3 ROLLS FULL THICK FIBERGLASS, FRAME WALLS
2 ROLLS .004 POLYETHYLENE IF POLYSTYRENE IS USED

7. DRYWALL AND BATHROOM FINISH:

20 - 1/2 X 4 X 8 PIECES GYPSUM BOARD
2 - ROLLS DRYWALL TAPE, 250 FT. ROLLS
5 - GALS. DRYWALL CEMENT
4 - 1/8 X 4 X 8 PIECES ENAMELED HARDBOARD MANUFACTURED
FOR BATHROOMS

8. DOORS AND WINDOWS COMPLETE WITH HARDWARE:

12 - DOORS PREFABRICATED OUT OF THE PANELING AND PLYWOOD
ALREADY LISTED (SEE DOOR SCHEDULE)
2 - 6'-8" X 6'-8" SLIDING OR FOLDING CLOSET DOORS
2 - 6'-0" X 6'-8" SLIDING OR FOLDING CLOSET DOORS
1 - 4'-0" X 6'-8" SLIDING DOOR TO BATH
1 - 3'-0" X 6'-8" FOLDING DOOR TO FURNACE ROOM
1 - 6'-0" X 6'-8" ALUMINUM SLIDING GLASS DOOR, TEMPERED
INSULATING GLASS

WEATHER STRIPPING FOR TWO EXTERIOR DOORS
1 - 36-INCH ALUMINUM THRESHOLD FOR FRONT DOOR
(INSTALL TWO LAYERS OF SOLID PLYWOOD OVER ALL DOOR
OPENINGS IN CURVED BEARING WALLS TO DISTRIBUTE
BEAM LOADS. THIS PLYWOOD SHOULD BE THE SAME
THICKNESS AS THE PLYWOOD STRIPS USED TO TIE THE
PANELING TOGETHER AND IT SHOULD OVERLAP THE SIDES
OF THE DOOR AT LEAST FOUR INCHES.)

14 - 2'0" X 3'-6" WOOD CASEMENT WINDOWS W/O TRIM
4 - 2 X 5 DOUBLE GLASS, FIXED WINDOWS. JAMBS
PREFABRICATED OUT OF 5/4 PINE ALREADY LISTED

9. CABINETS: SEE SHEET 2 AND 3 OF PLANS FOR KITCHEN CABINET
PLAN AND ELEVATIONS.

5 FT. WALL CABINET ABOVE WASHER AND DRYER
BATHROOM BASE CABINET ONLY UNDER MAIN LAVATORY

10. PLUMBING AND PLUMBING FIXTURES: AS NOTED ON FLOOR PLAN.
40 GAL. WATER HEATER. CHOICE OF SINGLE OR DOUBLE
KITCHEN SINK IS OPTIONAL.
FIBERGLASS SHOWER UNIT, 36 INCHES SQUARE
2 EXTERIOR HOSE BIBBS

11. ELECTRICAL WIRING AND FIXTURES: AS NOTED, CHOICE OF
FIXTURES IS OPTIONAL.

11. ELECTRICAL WIRING AND FIXTURES - CONT'D:

150 AMPERE BREAKER PANEL OR 200 AMPERE BREAKER PANEL
IF ELECTRIC HEAT IS SELECTED.

12. HEATING SYSTEM: THE TYPE HEATING SYSTEM IS OPTIONAL. HOWEVER
IF A FORCED-AIR SYSTEM IS INSTALLED, HEAT DUCTS MUST BE
INSTALLED UNDER THE CONCRETE SLAB AS NOTED ON SHEET 1 OF
PLANS. REQUIRED CAPACITY OF THE HEATING SYSTEM IS
DETERMINED BY LOCAL CLIMATE.

13. PAINT AND STAIN:

20 GALS. ROOF COATING AS RECOMMENDED BY MANUFACTURERS OF
POLYURETHANE FOAM

1 GAL. PRIMER FOR EXTERIOR TRIM AND WINDOWS (1 COAT)
1 GAL. FINISH FOR EXTERIOR TRIM AND WINDOWS (2 COATS)
25 GALS. STAIN FOR EXTERIOR SIDING AND EAVES (1 COAT)
30 GALS. STAIN FOR INTERIOR ROUGH WOOD AND BEAMS (1 COAT)
4 GALS. LATEX FOR DRYWALL (2 COATS)

14. FLOOR COVERING: 1400 SQ.FT. TYPE OF FLOOR FINISH, TILE,
LINOLEUM, OR CARPET IS OPTIONAL.

15. MISCELLANEOUS:

30-INCH OR 32-INCH DIAMETER ACRYLIC PLASTIC SKYLIGHT
FOR ATRIUM. SINCE A ROUND SKYLIGHT IS USUALLY NOT
A STOCK ITEM IT SHOULD BE ORDERED EARLY. SMALLER
SKYLIGHTS MIGHT ALSO BE INSTALLED IN THE ROOF OVER
THE KITCHEN SINK AND OVER THE UTILITY AREA. ELECTRIC
LIGHT FIXTURES UNDER SKYLIGHTS ARE LOW-COST PORCELAIN
BASES. SEPARATE PLASTIC CEILING PANEL IS NEEDED UNDER
THE SKYLIGHT. THE REMOVABLE RIM TO SUPPORT THE CEILING
PANEL CAN BE CUT OUT OF 1/2-INCH AC PLYWOOD (PREVIOUSLY
LISTED) AND FASTENED WITH FIVE WOOD SCREWS (SEE DETAIL
ON SHEET 3 OF PLANS).

PROVIDE A COMBINATION RANGE, OVEN, RANGE HOOD UNIT
WHERE LOCATED ON THE PLANS. A DISHWASHER UNIT IS
OPTIONAL. IF INSTALLED IT IS LOCATED BETWEEN THE RANGE
AND KITCHEN SINK OR IT IS A SPECIAL COMBINATION RANGE,
OVEN, RANGE HOOD, DISHWASHER UNIT SIMILAR TO THAT
MANUFACTURED BY MODERN MAID, CHATTANOOGA, TENNESSEE,
CALLED THE "COOK-N-CLEAN CENTER".

A STORAGE CABINET IN THE MUD ROOM IS OPTIONAL.

2 - 8 FT. CLOTHES RODS
2 - 6 FT. CLOTHES RODS

BATHROOM ACCESSORIES:

3 - TOWEL BARS

DWELLING SPECIFICATIONS

ROUND HOUSE

PLAN NO. FS - SE - 7

GENERAL: MENTION OF COMMERCIAL PRODUCTS AND SOURCES DOES NOT CONSTITUTE ENDORSEMENT OF SUCH PRODUCTS BY THE FOREST SERVICE OR THE DEPARTMENT OF AGRICULTURE TO THE EXCLUSION OF EQUALLY ACCEPTABLE PRODUCTS.

LOCAL AND NATIONAL BUILDING CODES, CLIMATE AND SITE CONDITIONS ARE IMPORTANT FACTORS TO BE CONSIDERED BEFORE BEGINNING CONSTRUCTION.

SITE: CHOOSE A FAIRLY LEVEL SITE SO THAT THE CONCRETE FLOOR SLAB CAN BE PLACED ON UNDISTURBED SOIL.

FOUNDATION:

FOOTINGS: 1:3:5 (2000 PSI) CONCRETE.

WALLS: 6X8X8 CONCRETE BLOCK, STACK BOND, CORES FILLED WITH CONCRETE; OR BRICK (ASTM C-216-64), GRADE SW, TYPE FBS, WITH BRICK CORES FILLED WITH GROUT.

PERIMETER INSULATION SHALL BE INSTALLED VERTICALLY ON THE INSIDE FACE OF THE FOUNDATION WALL. IT SHALL BE ONE INCH THICK POLYSTYRENE, ASPHALT IMPREGNATED FIBERBOARD, OR RIGID FOAMED GLASS.

FLOORS: 1:2:3 (3000 PSI) CONCRETE WITH 6 X 6 WIRE MESH REINFORCING OVER A 6 MIL POLYETHYLENE VAPOR BARRIER AND 4 INCH LAYER OF GRAVEL IF RECOMMENDED BY LOCAL BUILDING OFFICIALS. STEEL TROWEL FINISH CONCRETE SURFACES TO A SMOOTH FINISH AS A BASE FOR TILE OR LINOLEUM.

THE FURNACE PLENUM, HEAT DUCTS, WATER SUPPLY AND WASTE WATER PIPING ARE PLACED IN OR UNDER THE CONCRETE FLOOR. PROVIDE A MINIMUM OF TWO INCHES OF CONCRETE OVER DUCTS AND PIPING AND COMPLETELY ENCASE METAL HEAT DUCTS WITH TWO INCHES OF CONCRETE.

LOCATE CONCRETE CONSTRUCTION JOINTS AT PARTITION LOCATIONS. THE ATRIUM HALL FLOOR SHOULD BE POURED SEPARATELY BY INSTALLING A CIRCULAR FORM THAT EXTENDS ABOVE THE FLOOR TWO INCHES. THIS FORM SHOULD BE LEFT IN PLACE TO PROVIDE ANCHORAGE FOR THE ATRIUM WALL. USE TWO LAYERS OF 1/4 INCH EXTERIOR PLYWOOD THAT HAS BEEN SOAKED WITH A PRESERVATIVE OR USE 20 GA. GALV. SHEET METAL TIED TOGETHER WITH SHEET METAL SCREWS. WHEN THE WALLS ARE ERECTED THEY ARE NAILED TO THE PLYWOOD OR SHEET METAL FOR ANCHORAGE.

EXTERIOR AND INTERIOR BEARING WALLS: 1 X 8 PANELING IS USED ON BOTH FACES. IT SHALL BE 7/8 INCH THICK WITH TONGUE-AND-GROOVE OR SHIPLAP EDGES AND WITH ONE SIDE SURFACED. EXPOSED SIDE IS ROUGH, AS SAWN WITH A BAND SAW. ECONOMICAL LOCALLY AVAILABLE WOOD IS RECOMMENDED, SUCH AS NO. 2 YELLOW PINE, DOUGLAS FIR, CEDAR,

OR REDWOOD. EITHER AIR-DRIED OR KILN-DRIED WOOD CAN BE USED, BUT MOISTURE CONTENT SHOULD NOT EXCEED 16% AT THE TIME OF INSTALLATION. HAND SELECT THE STRAIGHTEST BOARDS FOR FULL EIGHT-FOOT LENGTHS. USE CULLS FOR SHORT LENGTHS AROUND WINDOWS AND DOORS.

FABRICATE WALLS IN SEVEN-BOARD SECTIONS BY NAILING PLYWOOD STRIPS TO ONE LAYER OF PANELING IN THE CURVED JIG. THE PLYWOOD STRIPS ARE OF SHEATHING GRADE SOFTWOOD PLYWOOD WITH EXTERIOR GLUE. USE ANNULAR GROOVED NAILS TO NAIL THE PLYWOOD STRIPS TO THE BOARDS. OVERLAP THE TWO LAYERS OF PLYWOOD IN THE STRIPS WHERE THE WALL SECTIONS ARE JOINED TOGETHER.

COMPLETE THE INTERIOR ATRIUM WALL BY INSTALLING ELECTRICAL WIRING, SAWING OUT DOOR OPENINGS, AND APPLYING THE SECOND LAYER OF PANELING. NAIL THE FINAL LAYER OF PANELING TO THE PLYWOOD STRIPS WITH TWO 8D GALVANIZED NAILS PER STRIP. THESE NAILS WILL ALSO PENETRATE INTO THE FIRST LAYER OF BOARDS.

ABOVE ALL DOOR OPENINGS REINFORCE WALL WITH TWO LAYERS OF PLYWOOD ABOUT 12-INCHES WIDE AND 48-INCHES LONG. USE THE SAME PLYWOOD AS WAS USED FOR THE STRIPS. FRAME DOOR OPENINGS BETWEEN THE 1 X 8'S WITH 1 X 4'S TO REINFORCE THE OPENING AND TO CLOSE THE OPEN SPACE BETWEEN THE PLYWOOD STRIPS.

THE EXTERIOR WALLS ARE COMPLETED THE SAME AS THE INTERIOR WALLS EXCEPT THAT 1/2-INCH THICK POLYURETHANE INSULATION IS SPRAYED BETWEEN THE PLYWOOD STRIPS AFTER WIRING, WINDOWS, AND DOOR JAMBS ARE INSTALLED, (SEE CONSTRUCTION NOTES)

ROOF BEAMS: SOFTWOOD WITH A MINIMUM ALLOWABLE UNIT STRESS IN BENDING OF 1500 PSI. (DOUGLAS FIR, HEMLOCK, LARCH OR SOUTHERN PINE). THE BEAMS ARE NAIL-LAMINATED AS SHOWN ON SHEET 3 OF PLANS. NOTCH FOR WALL ANCHORAGE AS SHOWN ON SHEET 4 AND NAIL EACH BEAM AT WALL LOCATIONS WITH FOUR 16D BOX NAILS.

BEAMS ARE INSTALLED IMMEDIATELY AFTER PREFABRICATED WALL SECTIONS ARE PLACED. TEMPORARY BRACING MAY BE NEEDED TO PLUMB THE WALLS.

WHEN BEAMS ARE TO BE STAINED A DIFFERENT COLOR THAN THE CEILING BOARDS, A STRIP OF POLYETHYLENE STAPLED OVER THE BEAMS BEFORE THE ROOF BOARDS ARE PLACED WILL MAKE THIS JOB EASIER. THIS WILL PROTECT THE BEAMS FROM MOISTURE.

NAIL THE 1 X 8 FASCIA BOARD AND 1 X 6 BACKUP BOARD TO THE ENDS OF THE BEAMS BEFORE PLACING THE ROOF DECKING. USE NO. 1 GRADE SOUTHERN PINE OR SIMILAR WOOD THAT HAS BEEN PRESERVATIVE TREATED. STAGGER ALL JOINTS AND BEVEL THE ENDS OF THE BOARDS AT A 45° ANGLE.

ROOF DECKING: 1 X 6 T & G, ROUGH ONE FACE (BAND SAW), 7/8-INCH THICK, NO. 2 SOUTHERN PINE OR SIMILAR SOFTWOOD OF ABOUT THE SAME BENDING STRENGTH. 1 X 8 BOARDS MIGHT BE SUBSTITUTED FOR 1 X 6'S IF DESIRED, HOWEVER WARPED BOARDS WOULD BE MORE DIFFICULT TO STRAIGHTEN. NAIL 1 X 6 DECKING WITH TWO 8D CEMENT-COATED NAILS AT EACH BEAM CROSSING, AND INSTALL THE BOARDS IN PIE-SHAPED SECTIONS OVER THE THREE BEAM SPACES THAT BECOME ONE SPACE OVER THE ATRIUM.

DWELLING SPECIFICATIONS

PLAN NO. FS - SE - 7

ROOF DECKING CONT'D:

APPLY DECKING IN DRY WEATHER AND COVER WITH POLYURETHANE FOAM ROOFING AS SOON AS POSSIBLE.

COVER THE EDGE OF THE ROOF DECKING WITH A GALVANIZED METAL DRIP EDGE AS SHOWN ON SHEET 4. THIS FLASHING CAN BE CURVED TO THE EDGE CURVATURE BY CRIMPING THE HORIZONTAL 3" WIDE FLANGE.

ROOFING: BEFORE COVERING DECKING WITH POLYURETHANE FOAM HAVE THE SKYLIGHT, ROOF VENTS, AND EXHAUST STACKS IN PLACE SO THE FOAM WILL SEAL AROUND THEM. PROTECT THE SKYLIGHT AND THE VENT COVERS BY COVERING WITH PAPER OR POLYETHYLENE. COVER ALL LARGE CRACKS (1/4 INCH OR MORE) WITH PAPER MASKING TAPE. ALSO COVER THE CONTINUOUS JOINT ON EACH SIDE OF THE PIE-SHAPED SECTIONS OF ROOF DECKING WITH MASKING TAPE.

BROOM CLEAN THE DECKING IMMEDIATELY BEFORE SPRAYING ON THE FOAM. DECKING MUST BE DRY WHEN THE FOAM IS PLACED. MOST POLYURETHANE FOAM MANUFACTURERS RECOMMEND THAT THE FOAM BE PAINTED OR COATED WITH A PLASTIC MEMBRANE IMMEDIATELY AFTER IT IS PLACED. THIS COVERING IS NEEDED TO PROTECT THE FOAM FROM SUNLIGHT BECAUSE ULTRAVIOLET LIGHT FROM THE SUN WILL GRADUALLY CAUSE DEGRADATION OF THE FOAM.

THE POLYURETHANE SHOULD BE OF THE RIGID TYPE AND HAVE A DENSITY OF 2 LBS. PER CU.FT. IT SHOULD BE APPLIED IN UNIFORM LAYERS AND THE FINAL THICKNESS SHOULD NOT VARY BY MORE THAN 1/4 INCH. THE FOAM SHALL BE TOPCOATED WITH A SUITABLE EXTERIOR WEATHER-RESISTANT MATERIAL RECOMMENDED BY THE FOAM APPLICATOR, WHICH IN COMBINATION WITH THE FOAM WILL PROVIDE A MINIMUM FLAMMABILITY PERFORMANCE OF CLASS C RATING IN ACCORDANCE WITH ASTM-E-108 TEST PROCEDURE FOR BUILT-UP ROOF COVERING MATERIALS.

SOFT-SOLE SHOES SHOULD BE WORN WHEN WALKING ON THE POLYURETHANE FOAM ROOFING.

INTERIOR PARTITION WALLS: 3/4-INCH THICK MEDIUM DENSITY PARTICLEBOARD SHALL BE USED AS SHOWN ON SHEET 4 OF THE PLANS. PARTICLEBOARD SHALL BE TYPE 1, GRADE B, AS DESCRIBED IN COMMERCIAL STANDARD CS 236-66. THE SQUARE EDGES SHALL BE BUTT-JOINED AND BONDED TOGETHER WITH A CONSTRUCTION ADHESIVE SIMILAR TO FULLER'S "TAN MASTIC". JOINTS SHALL BE FILLED WITH WOOD PUTTY AND SANDED BEFORE PAINTING OR STAINING THESE WALLS. APPLY ONE COAT OF SEALER BEFORE PAINTING OR STAINING.

CABINETS AND MISCELLANEOUS INTERIOR FINISH:

FINISH IN CARPORT STORAGE AND MUDROOM: 3/8" CD PLYWOOD WITH EXTERIOR GLUELINE WITH ONE COAT OF STAIN.

KITCHEN CABINETS AND THE LAUNDRY ROOM CABINET MAY BE FACTORY OR SITE BUILT, HOWEVER, SITE BUILT CABINETS WOULD PROBABLY BE A BETTER CHOICE BECAUSE OF THE CURVED WALLS. COUNTER TOPS ARE LAMINATED, WITH MELAMINE PLASTIC OVERLAY.

HEATING: INSTALL A FORCED AIR HEATING SYSTEM SIZED AS NEEDED FOR LOCAL DESIGN TEMPERATURES. AIR DUCTS ARE INSTALLED UNDER THE CONCRETE FLOOR SLAB AS SHOWN ON SHEET 1 OR THEY MIGHT BE INSTALLED FROM THE FURNACE PLENUM TO THE FLOOR REGISTERS IN RADIAL DIRECTIONS. WITH POLYURETHANE FOAM 1-1/2-INCHES THICK OVER THE ROOF, THE ROOF DESIGN "U" VALUE (BTUH/SQ.FT.) IS ABOUT 0.09. THE EXTERIOR WALL WOULD HAVE A "U" VALUE OF ABOUT 0.14 WITH 1/2-INCH OF POLYURETHANE FOAM INSULATION AND ABOUT THE SAME IF ONE INCH OF POLYSTYRENE INSULATION IS USED. BE SURE TO ALLOW SUFFICIENT AIR SPACE UNDER INTERIOR DOORS TO PERMIT AIR FLOW-BACK TO THE FURNACE.

ELECTRIC WIRING AND FIXTURES: PROVIDE PANEL, CIRCUIT BREAKERS AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. EXCEPT FOR THE WALL MOUNTED RECEPTACLES, ALL WIRES SHALL BE PLACED IN THE RACEWAY PROVIDED IN THE RADIAL BEAMS, OVER THE CURVED WALLS, AND IN THE FRAME WALLS.

SHALLOW METAL WALL BOXES SHOULD BE USED IN THE CURVED WALLS INSTEAD OF THE STANDARD FRAME WALL BOXES.

THE STYLE OF LIGHT FIXTURES IS OPTIONAL AND THEY ARE LOCATED ON THE DRAWINGS.

PLUMBING: INSTALL IN ACCORDANCE WITH THE NATIONAL PLUMBING CODE. FIXTURES ARE INSTALLED AS NOTED ON THE DRAWINGS. SHOWER STALL IS A FIBERGLASS 36-INCH DIAMETER ONE PIECE UNIT WITHOUT DOOR.

HOT WATER HEATER: 40 GAL. MIN. CAPACITY WITH 10 YEAR WARRANTY.

A STAINLESS STEEL SINGLE BASIN KITCHEN SINK IS REQUIRED. IF AN AUTOMATIC DISHWASHER IS DESIRED IT IS POSSIBLE TO BUY A UNIT THAT HAS BEEN INSTALLED UNDER THE KITCHEN RANGE AND OVEN AS SHOWN ON SHEET 3 OF THE PLANS. THIS COMPOSITE UNIT IS MANUFACTURED BY MODERN MAID. THE ADVANTAGE OF THIS UNIT IS THAT LESS BASE CABINET SPACE IS TAKEN UP BY THE SINGLE UNIT.

FINISH: ALL ROUGH WOOD SURFACES ARE STAINED WITH ONE COAT OF PIGMENTED TRANSPARENT STAIN. STAIN FOR THE EXTERIOR SURFACES SHALL BE A WATER-REPELLENT PRESERVATIVE STAIN. THIS CAN BE MIXED ACCORDING TO THE FOLLOWING FORMULA:

PENTACHLOROPHENOL CONC. (1:10)	2 QTS.
BOILED LINSEED OIL	1 GAL.
MINERAL SPIRITS	3-1/2 GALS.
PARAFFIN WAX	1/2 LB.
ZINC STEARATE	2 OZ.
COLORS-IN-OIL	1 QT.

DWELLING SPECIFICATIONS

PLAN NO. FS - SE - 7

FINISH CONT'D: THE PARAFFIN WAX IS MELTED IN A DOUBLE BOILER AND ADDED TO THE MINERAL SPIRITS CAREFULLY WHILE STIRRING VIGOROUSLY. THEN THE OTHER ITEMS ARE ADDED. AVOID SPARKS AND OPEN FLAMES DURING MIXING AND APPLYING THE STAIN. A TANK-TYPE GARDEN SPRAYER IS IDEAL FOR APPLYING THIS STAIN.

THERE ARE COMMERCIALLY AVAILABLE EXTERIOR STAINS THAT MIGHT BE USED IF YOU DO NOT WANT TO MIX YOUR OWN.

THE OIL-BASE INTERIOR STAIN COULD ALSO BE MIXED, EXCEPT THAT THE PRESERVATIVE AND PARAFFIN WOULD NOT BE NEEDED, HOWEVER LOW-COST WATERED-DOWN INTERIOR LATEX PAINTS MIGHT ALSO BE USED AS A STAIN.

ALL OTHER INTERIOR SURFACES MIGHT BE STAINED, PAINTED, OR WALL-PAPERED AND THIS CHOICE IS LEFT TO THE BUILDER, AS IS THE MATTER OF FLOOR FINISH WHICH MIGHT BE TILED OR CARPETED.

CONSTRUCTION NOTES

1. THIS HOUSE WAS DESIGNED FOR A SNOW LOAD OF 40 LBS. PER SQ.FT. ON THE ROOF AND FOR WIND LOADS OF AT LEAST 30 LBS. PER SQ.FT.
2. SOIL TREATMENT FOR TERMITE PROTECTION SHOULD BE APPLIED WHERE A TERMITE HAZARD EXISTS. LOCAL BUILDING OFFICIALS CAN ADVISE ON THIS.
3. ALL DOORS CAN BE SITE BUILT AS SHOWN ON SHEET 4, OR THEY MAY BE MANUFACTURED DOORS THAT ARE HUNG IN 2 X 6 JAMBS. THE CURVED DOORS ARE BUILT OUT OF THE DOOR SECTIONS SAWN OUT OF THE WALLS. THE SAME CURVED FORM USED TO BUILD THE WALL SECTIONS CAN BE USED TO BUILD THE DOORS. ONLY ONE SHEET OF 4' X 8', 1/4 INCH PLYWOOD IS NEEDED TO PROVIDE ONE FACE OF THE DOOR AS WELL AS THE PLYWOOD SPACER STRIPS. A SECTION OF THE INTERIOR DOORS CONSISTS OF ONE LAYER OF 7/8-INCH THICK LUMBER PANELING, TWO LAYERS OF 1/4 X 2-INCH PLYWOOD STRIPS, AND ONE FACE OF 1/4-INCH PLYWOOD. TOTAL THICKNESS WOULD BE 1-5/8 INCHES. NAIL AND GLUE ALL PARTS TOGETHER FOR RIGIDITY. USE CONSTRUCTION ADHESIVE SIMILAR TO FULLER'S "TAN MASTIC" TO GLUE THE PARTS TOGETHER.
4. SINCE THERE IS NO ROOF GUTTER, IT IS ADVISABLE TO PROVIDE A STRIP OF GRAVEL AROUND THE HOUSE UNDER THE OVERHANG TO PREVENT EROSION AND TO PROTECT THE EXTERIOR WALLS FROM SPLASHING WATER.
5. ALL PLYWOOD USED IN THE WALL FABRICATION, AS STRIPS TO HOLD BOARDS IN THE PANELS, SHOULD BE OF 5-PLY, 1/2-INCH DOUGLAS-FIR OR SOUTHERN PINE. THE GRADE SHALL BE STRUCTURAL 1 C-D, OR STANDARD WITH EXTERIOR GLUE LINE, ACCORDING TO PRODUCT STANDARD PS-1-66.
6. THE INTERIOR AND EXTERIOR WALL SECTIONS ARE MOUNTED AND FASTENED TOGETHER ON THE SLAB WITH ONLY ONE LAYER OF BOARDS ON THE PANELS. THE ROOF BEAMS ARE THEN MOUNTED AND ATTACHED TO THE TOPS OF THESE WALL SECTIONS (SEE NOTES ON SHEET 3 OF PLANS). FASCIA BOARDS AND METAL DRIP EDGE ARE PLACED. THE ROOF DECKING IS THEN INSTALLED, AND WIRING PLACED IN EXTERIOR WALLS. AT THIS STAGE THE APPLICATOR OF THE POLYURETHANE FOAM WOULD BE BROUGHT TO THE SITE FOR APPLICATION OF FOAM TO THE ROOF AND TO THE SPACES BETWEEN PLYWOOD BANDS IN THE EXTERIOR WALLS. THE OTHER LAYER OF BOARDS ARE THEN NAILED ON THE OUTSIDE TO COMPLETE THE EXTERIOR WALLS. INSTEAD OF THE FOAM INSULATION IN THE WALLS, THE ALTERNATE POLYSTYRENE SLAB INSULATION MAY BE INSTALLED, AND THEN THE EXTERIOR BOARDS NAILED IN PLACE. ONE-HALF INCH OF THE POLYURETHANE FOAM IS APPROXIMATELY EQUIVALENT IN THERMAL INSULATION TO 1 INCH OF THE POLYSTYRENE FOAM.
7. APPLICATORS OF THE POLYURETHANE FOAM ARE LOCATED IN MAJOR CITIES ALL OVER THE U.S. A LIST OF SUCH APPLICATORS CAN BE OBTAINED FROM THE SOCIETY OF THE PLASTICS INDUSTRY, INC., 250 PARK AVENUE, NEW YORK, NEW YORK 10017. APPLICATORS CAN ALSO BE LOCATED UNDER INSULATION CONTRACTORS IN THE CLASSIFIED PAGES OF MOST TELEPHONE DIRECTORIES. ATTENTION IS CALLED TO THE SPECIFICATIONS FOR THIS FOAM, INCLUDING THE COATING TO BE APPLIED. SELECTION OF A SUITABLE COATING TO MEET THIS REQUIREMENT SHOULD BE THE RESPONSIBILITY OF THE FOAM APPLICATOR, WHO SHOULD CERTIFY CONFORMANCE TO THE REQUIREMENTS CITED. THIS COATING SHOULD BE INSTALLED AT THE SAME TIME AS THE FOAM IS APPLIED. THERE ARE NO PRESENT MEANS TO APPLY SUCH FOAM INSULATION BY CONVENTIONAL BUILDERS OR HOMEOWNERS. QUALIFIED APPLICATORS HAVE SPECIAL PREMETERING, PUMPING AND SPRAYING EQUIPMENT THAT IS EASILY TRANSPORTED TO BUILDING SITES, AND HAVE THE NECESSARY SKILLED LABOR TO APPLY THIS FOAM PROPERLY. THE PRINCIPAL PURPOSE OF THE FOAM INSULATION, USED ALSO AS THE ROOF SURFACE, IS TO PERMIT THE UNDERSIDE OF THE ROOF STRUCTURE TO BE LEFT EXPOSED AS THE CEILING. THIS PROVIDES AN ATTRACTIVE APPEARANCE AND SAVES THE COST OF ADDITIONAL CEILING MATERIALS AND PAINTING.

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