Ron White

Desk Copy



HEARTH & STONE®

...the log home story.

Ron's Desk Copy



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In the United States, log homes have long been a part of our rich cultural heritage. In 1818, John Oliver made his way over the Smokey Mountains into Cades Cove, near Gatlinburg, TN. There, sheltered from prevailing winds, he built his home. The original homestead stood near this present structure **(bottom)**. *This pioneer structure is what Hearthstone has sought to recreate into a modern yet rustic home. Homes may be both rustic and beautiful, as is Johnny Meeks home* **(left)** *in South Pittsburg, TN. As you read this book, we hope you will be persuaded that log homes are not entirely a thing of the past.*



HEARTHSTONE BUILDERS, INC.

Dear Client:

When our forefathers crossed the Atlantic to settle the new world they brought the rich tradition of log home construction with them. They eased the hardships and privations of pioneer life, fashioning for themselves warm shelters from log materials which were readily available in the forests of North America. Since that time, 350 years ago, Americans have continually improved this type of home until it dropped out of general use in the late nineteenth century.

Hearthstone Builders proudly presents a re-creation of the authentic, hand-hewn log homes of yesteryear with which our past history has been so richly endowed. Moreover, we count it a distinct honor to have been the first modern log home manufacturer to re-introduce the hand-hewn concept, combining traditional styling with today's technology. No other log home blends the rustic charm, the warmth of hewn wood interiors, and the comfort of modern-day construction techniques in offering so much to the buying public.

The rapidly developing popularity of Hearthstone log homes is a testimony, not to the marketing techniques of our company, but to the solid durability, the simplicity, the near maintenance-free construction, the proven energy efficiency of our designs and the high quality standards maintained by both our staff and production personnel. For these and other good reasons Hearthstone can offer you our product with the confidence that it is one of the best buys in the log home industry today.

With gratitude for your inquiry we send forth this booklet in the hope that it will help you in your search for the perfect log home for you.

Sincerely,

Howard T. Munsey

Howard T. Munsey
President & General Manager
Hearthstone Builders, Inc.

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History of Hearthstone Log Homes

by James Munsey



As founder of Hearthstone Log Homes, I would like to share with you the background of our company My interest in log homes began in 1971, after completing my junior year of college. I helped a friend of mine restore an old log house in the mountains of East Tennessee. I was fascinated by the intricate notching and rustic beauty of a long gone craftsman. I began to buy and sell some old log homes, dismantling them and usually doing the restoration work on the owner's foundation.

The reconstruction process almost always included renotching some of the dovetail notches, because some would be broken or deteriorated because of years of neglect. Learning how to notch and repair dovetail notches has proven to be a great asset to me, since I later copied the construction techniques of the pioneers in developing our present product.

Since 1971, I have participated in the restoration of around 50 old log homes. Sometimes my involvement was only to put up the logs, and at other times I completed the homes. In 1973 I started construction of our own home in Newport, Tennessee. It was a dog trot home built of old logs, similar to so many of the early stage stops on frontier roads from Virginia through Tennessee in the 1700's and 1800's. Mitzi and I lived there until we came back to college in the fall of 1978.

With the increased interest in old log homes, finding one in a decent price range began to be less and less possible. David Langhans of Franklin, Tennessee, said, "I drove over 40,000 miles to find enough logs for my home." His home combined three or four homes purchased from Memphis, Tennessee to Kentucky.

With old logs so hard to find, and a constant demand for logs for new construction, I felt like it was time to construct an authentic log house out of new material, using the hewn log and dove-tail notch.

In the spring of 1973, I ordered some 6" thick logs from the sawmill and constructed our first log building. It was to be a sales office for our new product. Immediately the public responded to our product, and we were off to a start.

I was very proud of those first homes, though now I look back and see such an improvement in the quality of our product. The first few homes were in many ways the most authentic. The logs were squared on two sides only, the top plate of the two-story models was extended 12" just like the original homes, and the 2nd floor joists extended through to the outside of the log.

Over the months and years, refinements have been made in a continuing effort to upgrade our product for modern living. A few concessions were necessary for modern construction. The logs were squared out 6" x 12" so that the home would be more uniform. The top log no longer had to be tediously worked down to a flat edge in order for rafters to fit. The chink area is now a uniform 4". All logs are drilled with a 1⅛" bit for wiring. The ceiling beams extend only half way through the log, eliminating an air infiltration problem. While I still contend the dovetail notch does not need nailing, we have added a 12" spike to each dovetail notch. At least the customer feels better!

The road to success has been long and, at times, difficult. Without doubt, the greatest change for the better was three years ago when my Dad bought half interest in the business. He brought many innovative ideas, good, mature leadership, and the same high moral standards that he has held for over 20 years in the ministry. His leadership has given our company a good name in our community and especially with our employees.

We at Hearthstone Log Homes are dedicated to sharing our success with our employees. They, in turn, have been loyal to us by taking a great deal of pride in their handiwork. The manager, staff and employees of Hearthstone are dedicated to building the finest log home on the market.

By stepping into the management leadership of Hearthstone, my father, Howard Munsey, has made it possible for me and my wife to complete our final year in Bible College and enroll in Spanish language study. We are seeking to go somewhere in Latin America as missionaries.

As you read the remainder of this book, I hope that understanding its background will help you appreciate the quality of our homes. I truly believe that our homes are as authentic as they can be and still meet requirements for modern living.



This old building, constructed of logs and covered with siding, was the birthplace of Hamblen County, Tennessee in 1867. Its owner refused to restore it or sell it and it no longer stands. Many such buildings, rich in history, are lost each year because people do not appreciate the rich cultural heritage they portray.

The History of Log Home Construction

by James Munsey

No one actually knows who took the first axe and fashioned the first home of wooden timbers, but history tells us that the shaping and fitting together of timbers is an ancient art. As early as 2500 B.C. God told Noah:

> *"Make thee an ark of gopher wood; rooms shalt thou make in the ark, and shalt pitch it within and without with pitch."* [1]

The Bible goes on to tell us that Noah built the ark as God commanded and that it came to rest upon Mount Ararat. Pieces of the ark allegedly recovered from Ararat have been examined and found to have been hewn much in the same manner as the pioneers did two hundred years ago. Radiocarbon dating showed the pieces to be well over a thousand years old and possibly much older.

The use of logs horizontally placed and notched at the corners can at least be traced to Europe as early as the Middle Ages.

> *By medieval times, in the forested parts of Germany, the log house was a common type of peasant dwelling, and when America was being settled, there were hundreds of log houses in parts of the Rhine, Palatinate, Saxony, Bohemia, Moravia, Silesia, and elsewhere, occupied by farm and mountain folk.* [2]

No one is certain exactly where the art of log building originated since evidence indicates that the method was used in Europe as early as the Bronze Age.

> *In the Scandinavian countries log house architecture has been traced back to the age of the Vikings, 800 A.D. to 1000 A.D., representing a significant advancement from the turf huts of the reindeer-pursuing Laps.* [3]

This log architecture was also in evidence elsewhere in Eurasia:

> *".... there is ample documentary evidence that log dwellings were prevalent in Russia, as well as in*

Scandinavia, in the sixteenth century." [4]
Folklorist Terry J. Jordon pinpointed what in his opinion was the modern origin of log building.

"Archeological evidence points to the Maglemosian people, seashore dwellers of what is today Denmark, southern Sweden and northern Germany, as the likely inventors of log construction techniques." [5]

Jordon traces the development of log building throughout Europe, stating:

By the Bronze Age, log buildings were part of the landscape from southwestern France east into Russia and from Norway to the Balkans. [6]

Whatever the actual origin, log homes were commonplace in Europe and Scandinavia by the time of the colonization of America.

Notably, neither Spain nor England had log dwellings:

Yet we look in vain if we seek a British precedent for log construction, because this technique is not found anywhere in the British Isles and apparently never has been. [7]

The absence of plentiful timber is most likely the reason for an absence of log dwellings in England, Spain, and the lower portion of Italy. Log homes developed as an integral part of the areas where timber made construction possible.

"Forests and log buildings alike survived best in the hilly and mountainous districts of central and southeastern Europe and in the colder, less populated plains of northern and eastern Europe, areas unattractive to the farmer. In Scandinavia, Finland, most of European Russia, Poland, Czechoslovakia, the Alpine lands, the Black Forest of Germany, the mountainous spine of Yugoslavia, and the Carpathians, the visitor still today can see houses, barns, mills, churches, and various other structures built of logs." [8]

The first people to bring log construction to the United States were the Swedes, who in 1638 founded what was known as New Sweden.

"Swedes, some of whom migrated from Swedish language areas of present Finland, together with smaller numbers of ethnic Finns, probably made the earliest introduction of log construction into what is now the United States. In the 1630's and 1640's, a small group of these Northmen established the colony of New Sweden along the banks of the Delaware, New Jersey, and Pennsylvania." [9]

"Students of folk architecture disagree concerning the importance of the Swedish introduction but the prevailing opinion among experts is that it was of relatively little consequence." [10]

One may safely assume that the Swedish log builders, though the first to introduce the method of horizontal log construction, did not contribute near as much to the art as some other groups.

Log building has long been a tradition in Canada. The French built log buildings of notched corners in Quebec. Traders of the Hudson Bay Company built remote outposts of logs. Without doubt the Finns and Swedes built a great deal there also, because the saddle notched round log homes so common in Canada today were traditionally built by them in other areas. While there has been a strong interest in log building in Canada, little has been written, even by Canadian authors, on the historical background of those homes.

It was the Pennsylvania Germans, who gave us the long rifle and the Conestoga wagon, who also gave us the log cabin so common in the Eastern United States. German immigrants who moved into Pennsylvania during the early 18th century brought with them their European log building tradition.

Once implanted in the Middle Atlantic Colonial core area, the German inspired style of log construction was adopted by other ethnic groups. Even the Swedes, who had their own log tradition, were influenced by the German methods. [11]



A 200 year old dovetail corner.

In addition, the English, Welsh and Scotch-Irish, who had no log heritage of their own, quickly picked up the art of log construction from the Germans.

The introduction of German log construction occurred between about 1710 and 1740; the spread to neighboring ethnic groups probably took place mainly in the 1730-1750 period. [12]

The Hispanic settlers of Mexico and the southwestern United States made use of log buildings. Logs were present in Mexico as early as the 1700's.

"These Hispanic log buildings abound today in five major areas of Mexico." [13]

Other ethnic groups than those already mentioned have used logs in dwellings.

"Afro-Americans acquired log building traits during their slavery years." [14]

The slave cabin located on the Hermitage estate near Nashville, Tennessee is built of logs. Such buildings that provided shelter for slaves were many times also built by slaves.

The North American Indians also used log dwellings.

"There is an example of a Cherokee cabin dated ca. 1760 in a park in Chattanooga, Tennessee." [15]

Log cabins are presently on display at the Oconaluftee Indian village in Cherokee, North Carolina.

At Ross' Landing, outside Chattanooga, Tennessee, there still stands the splendid two-story log house of John Ross, the wealthy, well-educated, and highly respected chief of the Cherokees at the time of the tribe's removal to the west. [16]

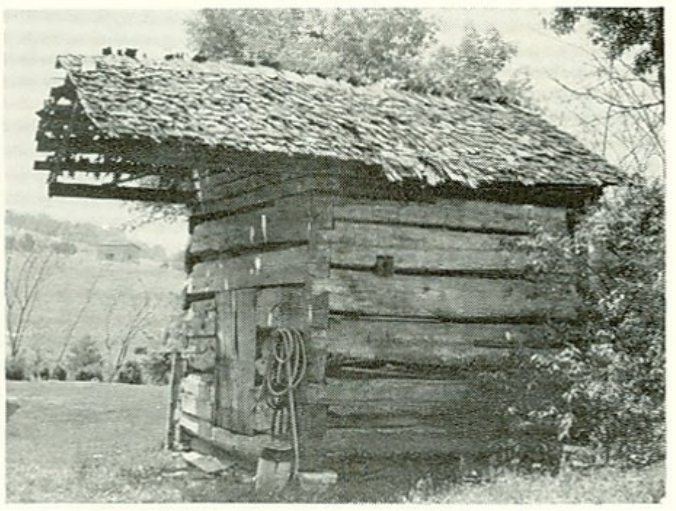
Terry Jordan notes that the Cherokees, Choctaws, and other immigrant Indian tribes who came to Texas from the southeastern United States also adopted log construction. [17]

One can clearly see that the cultural influences that contributed to the log building history of America were varied. They ranged from the Finns, Swedes, and Russians of northern Europe to the Germans, and Moravians of Central Europe. Even the Hispanic peoples who conquered Mexico had some log building background. The English and Scotch-Irish quickly adapted their timber framing "cruck" construction to these foreign elements. The American Negro developed the art further. They all have played a part in the rich historical heritage that has become so "American" to us today. As C. A. Weslager aptly sums it up:

Whatever their motives, and no matter whence, they brought with them their own concepts of the house and the home, of husband and wife relationships, and of child-raising as rooted in old world sociology. The houses they built when they arrived in America were constructed under the strong cultural influences of their European environments, modified by prevailing conditions of the New World climate, the availability of building materials, and social organization. [18]

Several American presidents as well as scores of other notable people were born in log homes. William Henry Harrison, who was president over 125 years ago, built his election campaign around his log cabin heritage. Other presidents who claimed log cabin birth are; Andrew Jackson, James Knox Polk, James Buchanan, and Abraham Lincoln. Notable Americans who were born in log homes included: Davy Crockett, George Washington Carver, Booker T. Washington and Cordell Hull.

There are a number of misconceptions about the early use of log buildings in America. This phenomenon is known as the log cabin myth. The truth is that one will look in vain in Colonial New England for an example of a log home. Even the settlement of Jamestown had no log

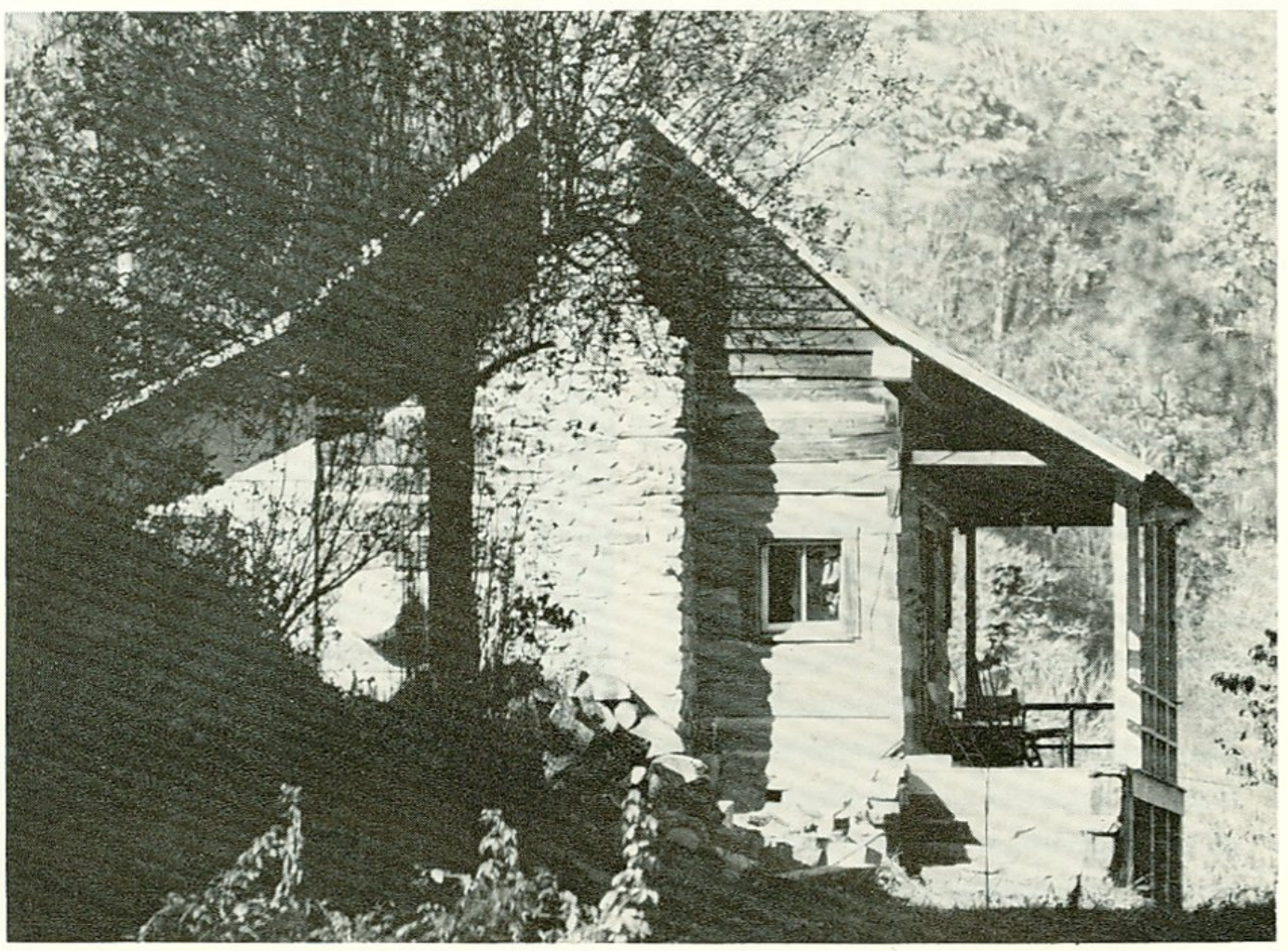


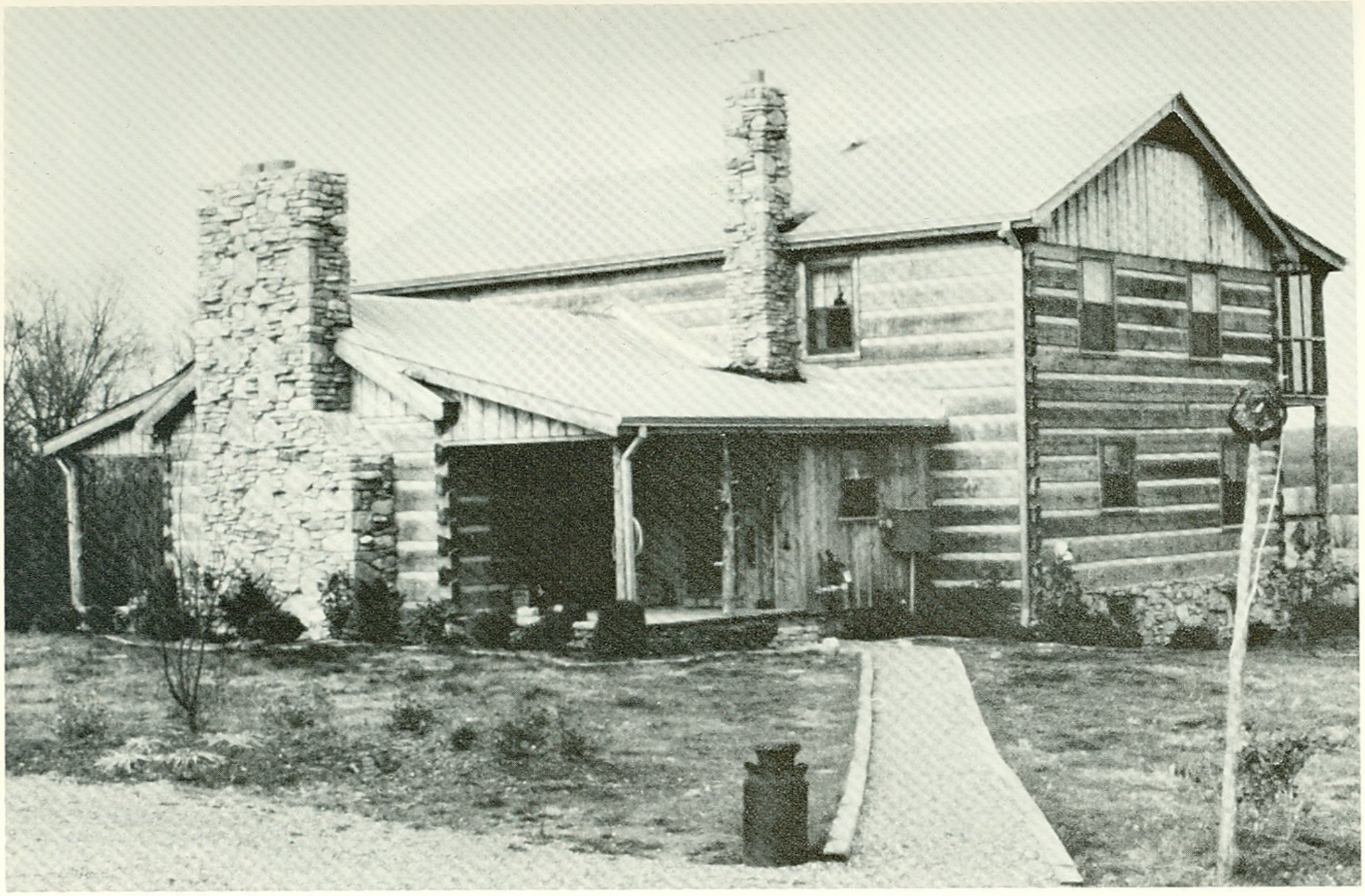


(Top)
A beautiful log smokehouse in the Appalachians.

(Above)
A log corn crib, common throughout rural America.

(Below)
An 85 year old log home built by a Cherokee Indian on the Qualla Indian Reservation, Cherokee, North Carolina. It is still inhabited.





The home of Country Music star Charlie Daniels near Nashville, Tennessee.

homes at first.

> *The facts are that no log cabins were built in Virginia until more than a century after the founding of Jamestown! And the log cabins in Georgia and the Carolinas came even later!*[19]

Log cabins have become so sacrosanct to the American that everyone wants to believe that all the pioneers lived in them and built them.

Time does not permit the tracing of the log cabin from its frontier zenith to the nadir of the 20th century. While log building continued into the 1940's, it was all but a lost art to American people. A few exceptions were the isolated pockets of the Appalachians where life followed traditional patterns well into the 20th century. Most of what is learned today has been either from careful study of old log buildings or by reading what was written and hidden away in some dusty archives. It is a sad indictment when our fathers no longer care to pass on the skills so needed to perform quality work and our children no longer wish to partake of the fresh heritage of our ancient past.

The log cabin revival is in many ways refreshing, and in other ways disappointing. Over 10,000 log homes were constructed in the United States in 1978. Hundreds of companies have sprung up all over the United States and Canada selling log home kits. Some of these companies are more concerned about volume of sales than quality. Consequently, the log home industry has suffered.

Many books are on the market detailing the "how to" of log construction. Some are hopelessly outdated. Few give enough help to utilize a home with even the basic necessities of electricity, plumbing and modern heating systems. Most books are grossly lacking in factual, technical information. Most books do not address problems of air infiltration so common to log homes. Most books on log construction deal with round log construction. While that method has historical significance, most log construction from Pennsylvania southward was of hand hewn squared timbers dovetailed together at the corners. More information needs to be made available about the true thermal resistivity of wood.

The number of old log homes is decreasing each year. Some rot down from disuse and neglect. Others suffer a far more humiliating death; they are hauled out near an interstate and used as curio shops. They are usually crudely butchered and unrecognizable. Still other log homes are made into modernistic homes that portray little of their humble origins. What few buildings remain should be used as authentic homes, as museums, or preserved in such a way that we can be proud of the people who forged a civilization out of a hostile wilderness.

As for the future use of any log building, new or old, American people must exercise great maturity in using our limited timber resources.

> *And as we have come to realize in recent years, we are running out. Materials are scarce, fuel is in short supply, and prices are escalating. To survive, one is going to have to be either rich or resourceful. Either more*



A guest house constructed by the author out of recycled old logs. They should last another 100 years.

dependent upon, or freer from centralized production and controls. The choices are not clear, for these are complex times. But it is obvious that the more we can do for ourselves, the greater will our individual freedom and independence be.[20]

Two philosophies exist that try to explain the impact of the log home in America. One philosophy holds the position that while the log cabin was an invention of necessity, it had no direct impact on our culture. The log cabin was just an adaptation to a woodland environment.

The other philosophy sees the log cabin as more than a house. It was an environment. That environment included the frontier concepts of honesty, integrity and productivity that shaped the character of a whole nation. I subscribe to the latter view.

The type of building material used in log homes did not shape character in itself, but the process involved in building a log home and making it into a suitable family dwelling did build character. The difficult task of felling trees and hewing them into flat timbers built determination in young men. Hewing was not a job for the lazy man. Placing the logs into a wall took community cooperation. Chopping firewood and carrying spring water reminded one that survival depended upon the careful use of land and water resources. In such a wilderness setting, each family member needed the others for survival.

Present log home owners testify that a log home does create a special warmth. They also testify that they prefer their log homes to any other type of home. If log homes can help to bring back some of the unhurried life-style of bygone years, building them today will be well worth the effort.

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1. Genesis 6:14.
2. C.A. Weslager, *The Log Cabin in America: From Pioneer Days to the Present*. (New Brunswick: Rutgers University Press, 1969), p. 86.
3. Ibid., p. 87.
4. Ibid., p. 88.
5. Terry A. Jordan, *Texas Log Buildings: A Folk Architecture* (Austin: University of Texas, 1978), p. 21
6. Ibid.
7. Ibid., pg. 23.
8. Ibid., p. 21.
9. Ibid., pg. 23.
10. Ibid.
11. Ibid., p. 24.
11. Ibid., p. 24.
12. Ibid.
13. Ibid.
14. Ibid., p. 10.
15. Alex W. Bealer and John O. Ellis, *The Log Cabin: Homes of the North American Wilderness* (Boston: Barre, 1978) p. 15.
16. Ibid., p. 16.
17. Jordon, p. 10.
19. Ibid., p. 99.
20. Lloyd Kahn, *Shelter* (San Francisco: Sunset Press, 1973), p. 3.



A guest house constructed by the author out of recycled old logs. They should last another 100 years.

The Advantages of Building a Log Home

by James Munsey

Nothing symbolizes America better than the log home. While the log home did not originate in America, it was here that it came of age. The limitless forests of our nation nurtured the various styles of log homes brought here by our European forefathers.

If logs are so superior, why did people resort to other means of construction for a number of years? The answer is that in our modern technological culture the knowledge and skills required to build a log home were lost by the hordes of people migrating to the great industrial centers of America.

> *In times past, people built their own homes, grew their own food, made their own clothes. Knowledge of the building crafts and other skills of providing life's basic needs were generally passed along from father to son, mother to daughter, master to apprentice. Then with industrial-ization and the population shift from country to cities, this knowledge was put aside and much of it has now been lost. We have seen an era of unprecedented prosperity in America based upon huge amounts of foreign and domestic resources and fueled by finite reserves of stored energy.*[1]

Now that energy has become a critical problem in the world and housing costs are escalating at a rate far above the inflation rate, log homes as an alternate form of housing have become both practical and economical. There are several advantages to building a log home.

One of the greatest is that a log home may be built by the owner himself.

A great number of people are finding a lot of satisfaction in building their own homes. While it is not practical for some people to do so, others are taking leave of absence from their jobs to build a home. Still others are doing the work in the afternoons and on weekends and finding a special kind of recreational benefit from such work.

Another feature that makes logs a good home is the aesthetic impact. Almost everyone loves a log home. While not everyone could practically live in one, there is no denying the charm of a log home with its cozy fireplace. It evokes a sense of security from the elements that is unequaled. It signifies fellowship, togetherness, love, and security all at the same time. The logs blend pleasantly into the surrounding trees and grass. Who could resist such a tranquil abode? It is the dream of thousands of Americans, who are cramped into the condominiums and apartment houses of our cities.

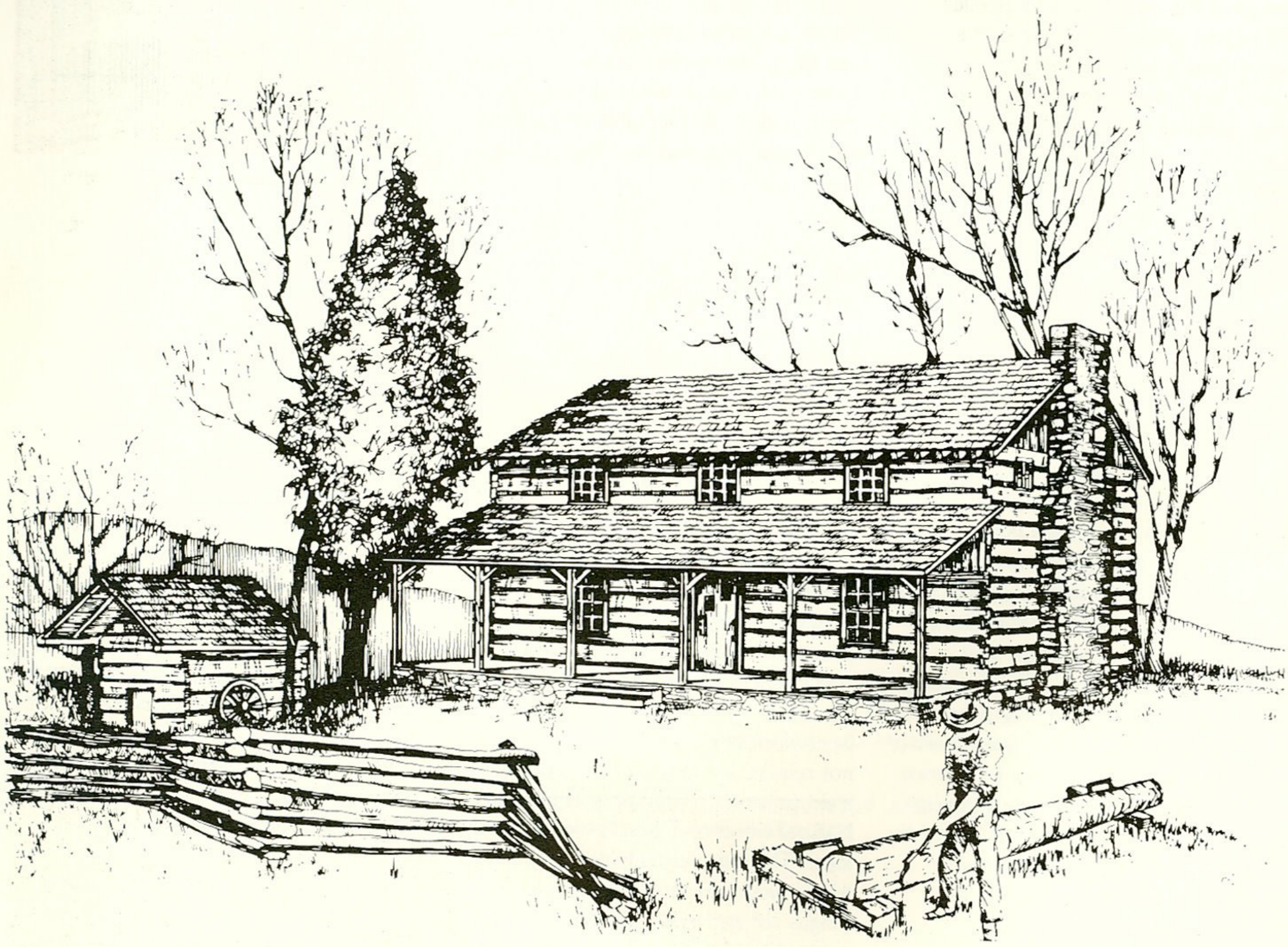
A log home requires less maintenance than a conventional home. The wookwork in the eaves and gables does not require painting. Only a coat of stain or wood preservative is needed. Natural wood trim blends well with the logs. The logs certainly need no paint, only a wood preservative to prevent fungus rot and insect penetration. The same type of termite and bug protection used on a frame home is all that is necessary for a log home. That is, the ground around the footing should be treated as well as the crawl space beneath the house. A yearly inspection for any visible damage is also a must. Letting the logs weather naturally is not only aesthetically pleasing, it is a fresh reprieve from the scraping and repainting necessary every few years on a frame house.

A log home builder preserves in visible form one of our greatest natural resources - our trees. It is better to see the product of our resources in a natural form, such as a log home, than as the product of industrial ingenuity. Reams of paper produced chemically from our trees fail to inspire one of the great potential of trees. Plywood, tennis rackets, and miles of toilet paper equally fail to inspire one, but a log home is maximum usage of a very precious resource. It is history. It is a chronology of the progress of man. Inasmuch as the workmanship is of a good quality, it records the great ability of our forefathers to carve an existence from the wilderness. It will record our talents or lack of talent for later generations. Fortunately, the crudest examples of work do not survive long, but the well-fitted dovetailed notches of a carefully crafted home will stand for centuries.

One of the best reasons for building a log home is the long use one can get from the building. Wood that is kept dry and free of insects will last almost forever. Furniture from the pyramids is still in good shape today, thousands of years after being created. Log homes 200 years old are still being used for habitation. When one considers the useful life of a frame dwelling to be 60 to 75 years, logs could add up to a total savings of three times the price of a frame home. What a prime use of resources that would be!

1. Kahn, *Shelter* p. 3.

TEN Questions Frequently Asked About Log Homes

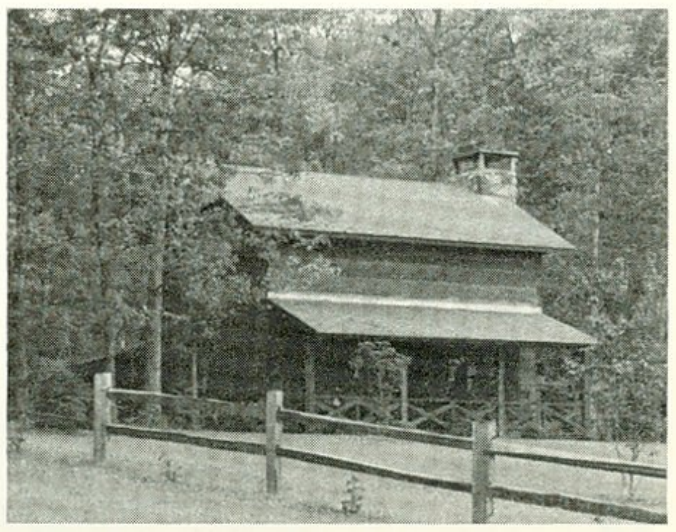


Hearthstone log homes are a unique adventure in rustic, carefree living in the tradition of the early American pioneer. We have reproduced the rugged beauty and charm of authentic hand hewn, hand dovetail notched homes constructed of top quality white pine and Canadian hemlock in lengths to 40 feet. Materials for your Hearthstone homes are carefully selected, processed and assembled at our mill to insure precision fit prior to shipment to you for on-site erection.

Since modern log home living is rather new to many people, we have listed 10 of the most often asked questions about log homes along with our answers. We feel the information will serve as an introduction to our product and that it will also be of special interest to anyone who likes log homes.

1
Are log homes more expensive than conventional homes?

Not necessarily. While some people may build a log home cheaper than another person would build the same house conventionally, no one can guarantee this. Our experience has been that the cost fairly well parallels that of conventional housing in the same area. Since a log home does not require 2x4 framing for the outside walls, paneling, sheetrock, brick veneer, or exterior siding, less work remains once the logs are in place. The hand hewn 6" thick logs provide the interior and exterior finished walls. There is one danger in log construction. If the builder does not make himself familiar with the proper construction techniques for log homes, he may spend needless time and money that could be saved. For this reason Hearthstone Builders and its dealers make ourselves available for consultation at any stage during the construction. We feel that our responsibility does not end once we put the logs in place.

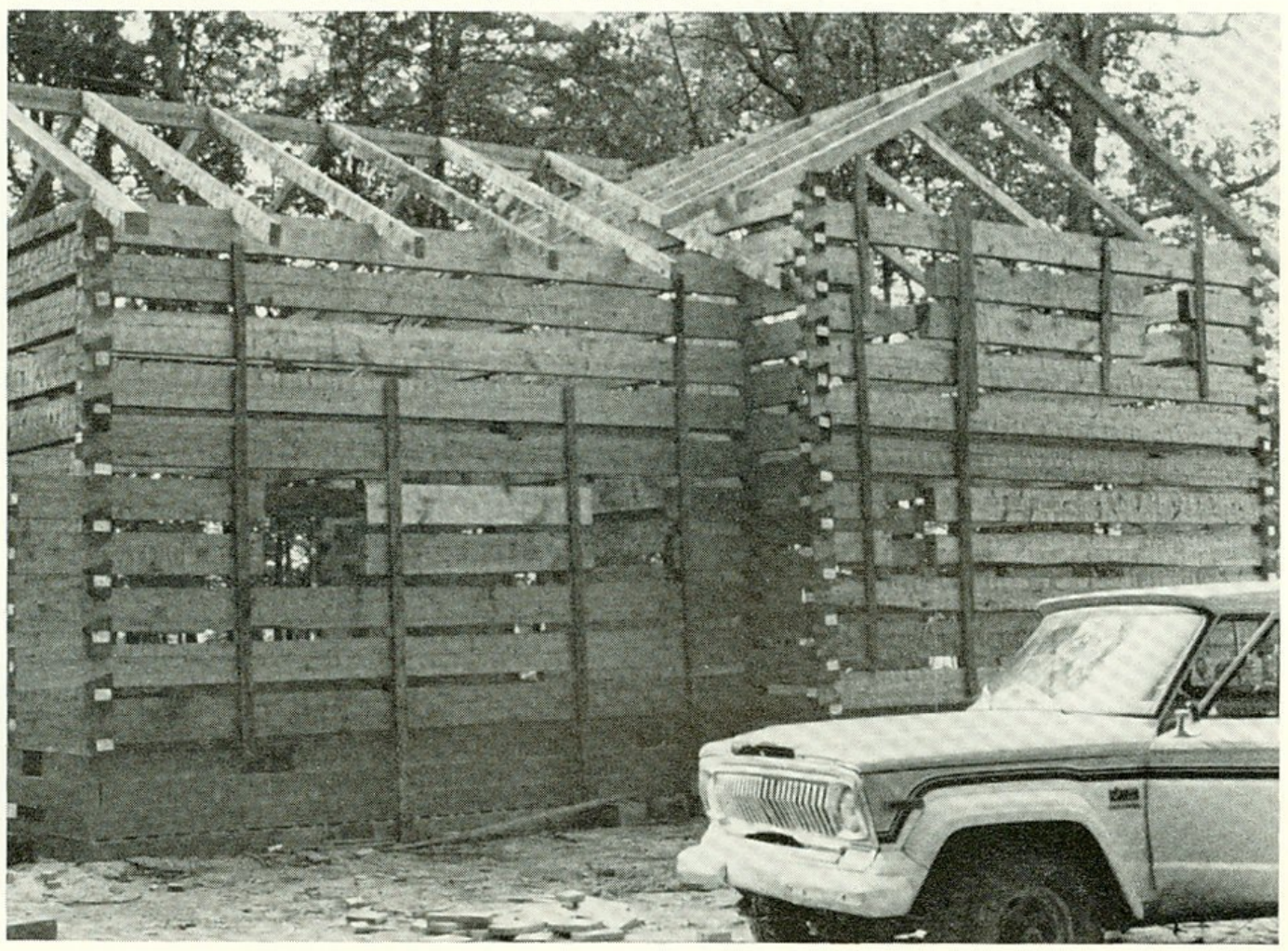


Your log home will reflect your own personality.

2
Do you erect the logs?

Yes. We do provide erection service. On our standard models it is 12% of the total price of the house. We do sell homes without the erection service if the customer chooses. However, we do not recommend that the average home owner or contractor attempt to erect the logs. Hearthstone log homes will contain 6" x 12" logs up to 40' long, weighing up to 1000 pounds. Special equipment is required to set the logs. There is also a certain amount of danger involved in setting such heavy timbers into place. Hearthstone cannot take responsibility for poor workmanship due to an inexperienced contractor trying to erect the logs. Our erection service applies to the log walls and 4" x 8" ceiling joists only. Rafters, porch material, conventional framing, etc., must be erected by others.

A log home with the logs and rafters erected.



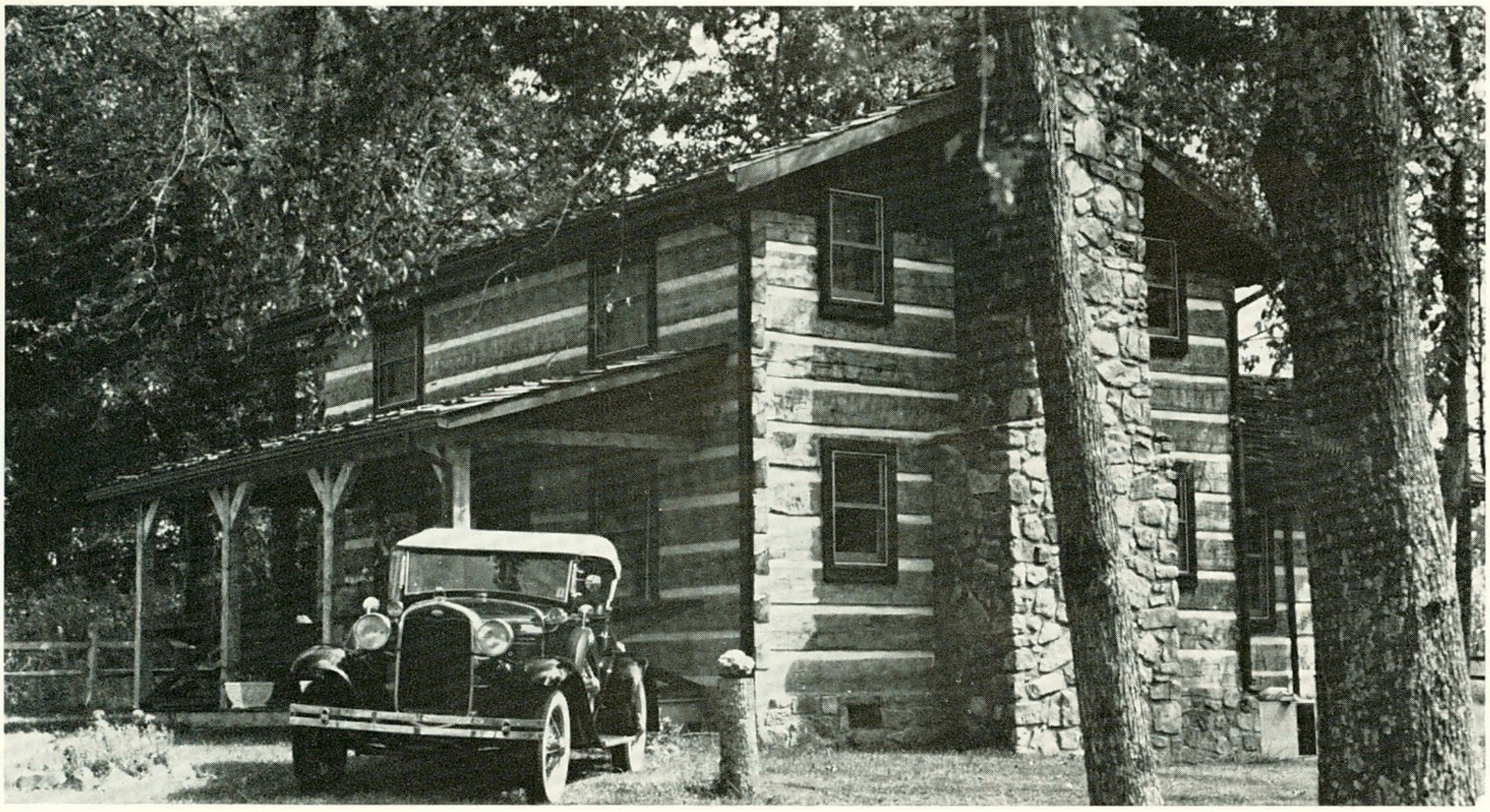
3
Are log homes structurally sound?

Hearthstone employs a full time engineer to see that each house that leaves our yard is structurally sound. Our responsibility demands that we not sell a home that is not properly designed for load stress and weight distribution. We are proud to say that we have not had one case of home damage due to faulty structural engineering. Since the majority of our sales are customer designed floor plans, we must examine each one and occasionally add support timbers over long floor spans or roof spans. We also make minimum foundation standards for the owner to assure a safe base for the logs. If in our opinion a foundation is not of sufficient strength to support the logs, we will refuse to set the logs until minimum standards have been met. We cannot prevent the owner from setting the logs on his own foundation, but for us to do so would be to risk liability for any structural damage to the footing and foundation itself.

Any foundation that will support a brick and frame wall will support a log wall. No special foundations are necessary. A log home can be put on an existing concrete block foundation or basement. We do not recommend the use of foundation pillars except on the smaller vacation home models. Solid wall foundations, such as for a brick home, are recommended.

4
Can I design my own home?

On each of the standard models in this book, we provide the customer with 3 full sets of plans. Each has been designed carefully to assure structural integrity. However, most of the homes we sell are custom plans provided by the owner. It costs only 3% more to buy a home from your own plan than it does to buy one of our standard models. You must provide the plans, but we will be glad to supply the logs. If you have a home plan and want a quote on the log package, send it to us for a free quote. Please indicate which areas receive overhead ceiling joists, and which areas receive hewn rafters.



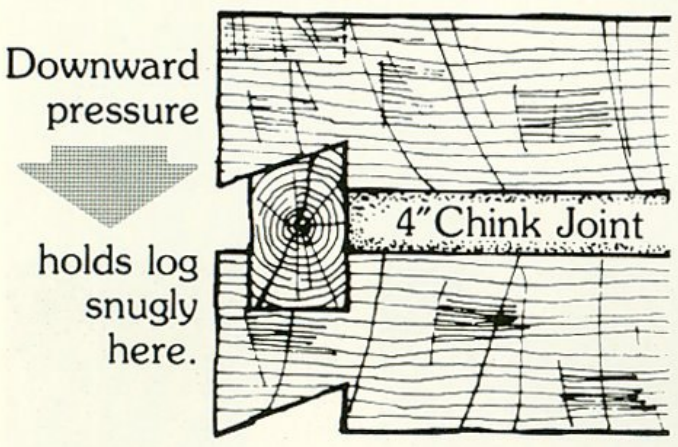
5
What is unique about Hearthstone log homes?

There are several features that make Hearthstone log homes unique from the several hundred manufacturers in the United States.

Hand Hewing. To our knowledge, no one in the United States is providing a hand hewn log home on the market at any volume. This makes Hearthstone cabins unique in the industry. The 6" x 12" logs and 4" x 8" beams and rafters are actually hand hewn with a foot adze much like they were 200 years ago. This lends our homes an authenticity and charm unequaled by the round log manufacturers.

Dovetail Notches. We use the same notch used years ago by the pioneers. Log cabins have been made by this method for hundreds of years in the Black Forest area of Germany and other parts of Central and Eastern Europe. The half dovetail notch is of proven superiority.

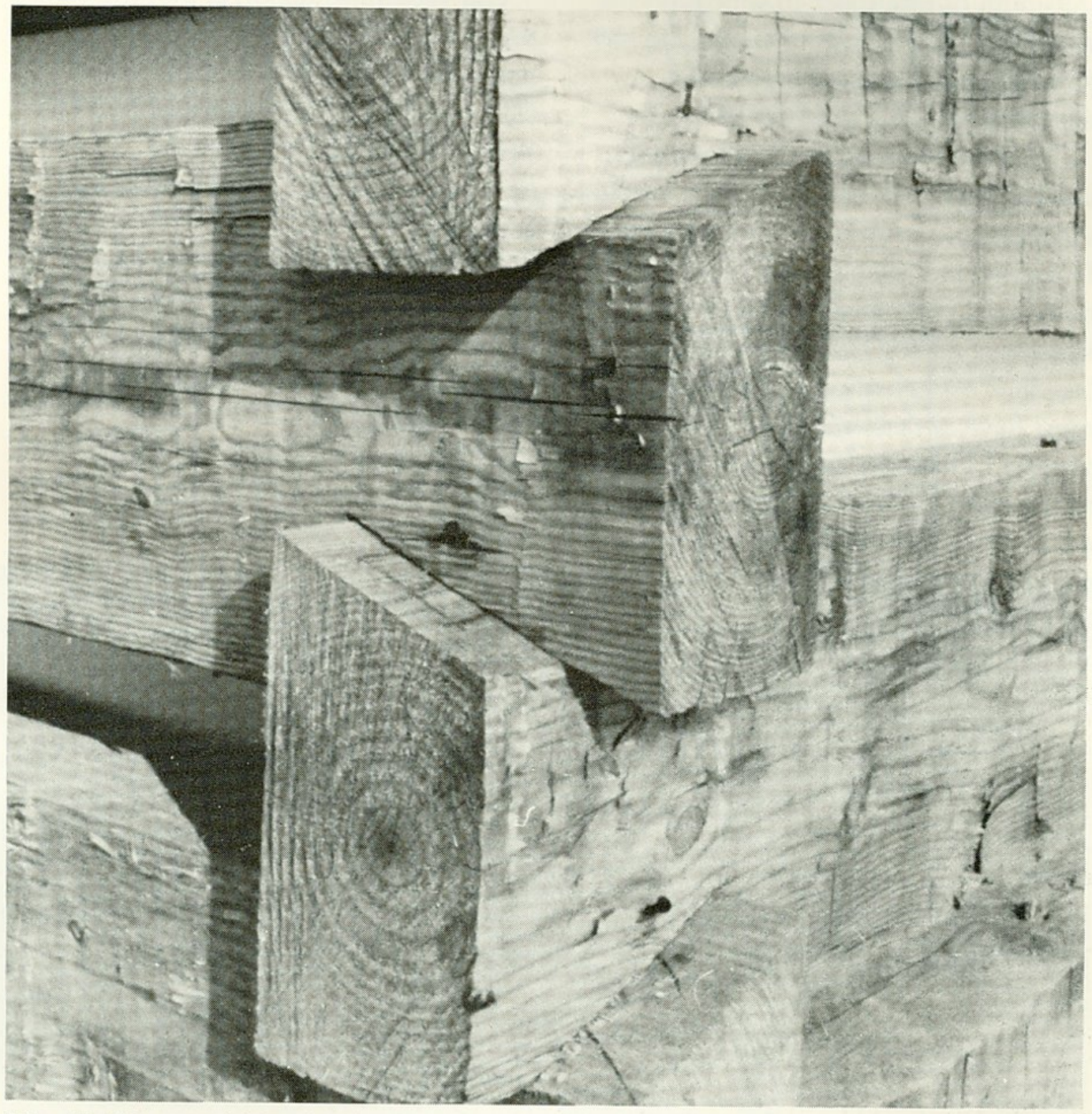
The notch is so designed that the whole weight of the house must be lifted 3" for a log to be taken out. The natural force of the top slope keeps each log firmly in place, preventing tilting or movement.



Chink Joints. The chink joint is the 4" space between each log and the one above or below. Years ago, the chinking referred to small blocks of wood or other material wedged between the logs to provide an adhering surface for the mud and daubing.

Today the term chinking applies broadly to the particular mixture of concrete or mud applied between the logs. Authentic restorations prefer to use a clay based chinking, but modern home construction requires the more durable concrete chinking.

The chinking does not extend the entire 6" from outside to inside the wall. Only about ½" to ¾" of chinking is necessary on each side. The space in between is filled with fiberglass or styrofoam insulation. With 4" of type SM styrofoam, the chink area provides an R value of 22.76, more than adequate.



The Half Dovetail Notch

In order to keep the chinking securely in the wall, either plaster lath or ¼" wire mesh is nailed securely to each log. If applied properly to this surface, the chinking will not crack or come out of the wall.

The chink area has a great advantage in providing a space for the electrical wiring.

Each log has a 1⅛" hole drilled in it to accomodate electrical wires. The 4" chink area leaves plenty of room for working the wiring through the logs. It also permits placement of the 4" electrical receptacle boxes without chiseling the logs. In this manner wire may be run from floor to ceiling through the logs, or may be run horizontally as needed.

All of these characteristics make our product unique. The knowledge needed to notch the logs at our factory has been gained over several years of experience. We have researched heavily in literature and also by dismantling of many old log homes to retain as much authenticity as possible. We think you will be pleased with the results.

6
Do you treat your logs?

We do not treat our logs. Logs that are covered with a good roof will need a minimum of treatment to withstand the elements. Thousands of cabins are still standing that have withstood the elements for a hundred years!

The pine and western hemlock logs used in Hearthstone Log Homes are as vulnerable to insects as a frame home. However, in a frame home more damage is likely to occur since the framing is mostly hid. Termites work in the dark except when swarming, and must have access to framing from the ground. They also prefer soft sapwood to the heart of the log. Our logs are usually the heart of the log and less susceptible to insect damage than most framing.

Our recommendation is that the same precautions be taken in building a log home as one would in a frame home.
(1). A termite shield approved by FHA should be placed on top of the foundation wall before framing or logs are added.
(2). Steps should be taken to have a 24" minimum crawl space under the house (more in damper climates). Follow local building codes and recommendations.
(3). The ground around the house should be treated by a reputable extermination company.
(4). A professional physical examination should be made of the house each year as a safeguard.

All the above should be done for frame or log homes. There is one further factor that will reduce insect concentration on the log walls. The use of a penetrating, preserving stain is recommended. One such stain is Cabots O.T.V. Solid Color Stains. The stain is oil-based, and available in a variety of colors. They have a bleaching agent that bleaches the wood naturally. The pentrating stain keeps moisture out, preventing decay, warping and checking, yet it allows the pores of the wood to breath. There are other good products on the market. Consult your local building supply to find out what is avilable in your area.

This log stage stop, on the Belle Meade Plantation grounds in Nashville, Tennessee, is almost 200 years old. Although untreated for many years for termites, it stands as a monument to the durability of logs.



7
Do logs shrink?

Yes. All lumber shrinks to some degree. Some woods, such as poplar, shrink and check so badly that we have long discontinued their use in log construction. As the log dries out the sap or moisture within it evaporates, greatly reducing its weight. Each wood cell becomes filled with air, thus giving dried woods a styrofoam type of insulating quality. The lighter woods such as pine are better insulators than the hardwoods, oak or hickory.

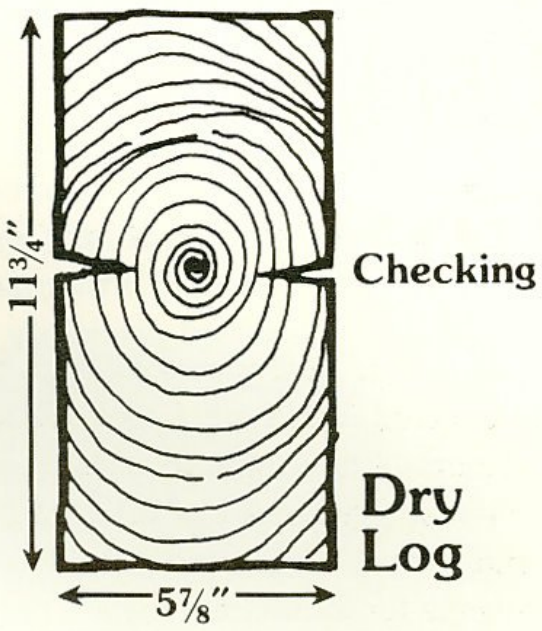
Shrinkage in logs basically causes two things to happen. (1) The log will be reduced a little in size. (2) Some checking will occur. The log will not shrink in length. A log that is 30′ long when green will be 30′ long when dry.

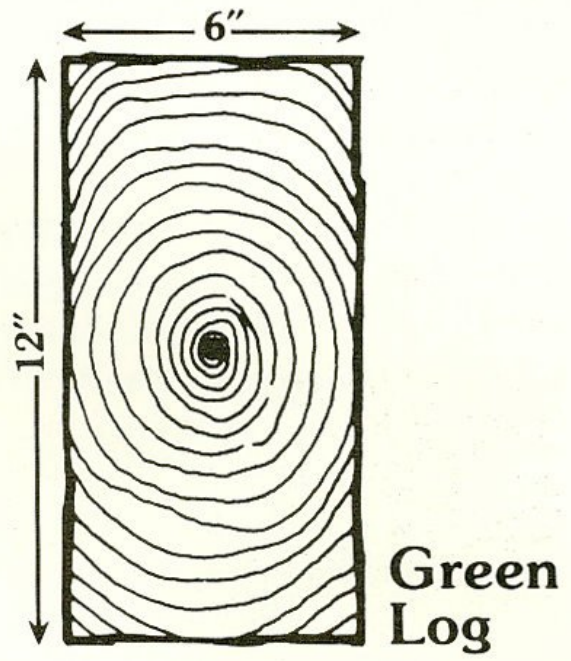
Our research indicates that a 12″ log will shrink as much as ⅛″ to ¼″ from the time it is cut in the woods. Since that shrinkage must be multiplied for each log in a wall, an 8′ wall with 6 logs would shrink ¾″ to 1½″. Fortunately, the logs do about half the shrinking in the 3 or 4 months they spend on our yard before delivery to the homesite. To speed up the remaining shrinkage we strongly recommend the house be roofed and closed in either by tacking poly-etheline plastic on the outside walls or by putting styrofoam or fiberglass between the logs and using dry heat for several days. Either a kerosene space heater or a wood stove temporarily placed by the fireplace opening will do the job. In this way, the logs may be dried adequately so that they may be chinked.

Since chinking is usually done just before the finish floor is put down, the logs will be at least 6 months old and have had a good chance to dry.

Checking occurs when wood of thick dimensions dries out. Checking is present in all old log homes. While its appearance may seem cause for alarm, the cracks are harmless and a natural process for logs. The cracks will usually penetrate about ¼ the way through the log. They do not cause heating loss problems.

Checking occurs because the outer layers of wood shrink more than the heart wood.

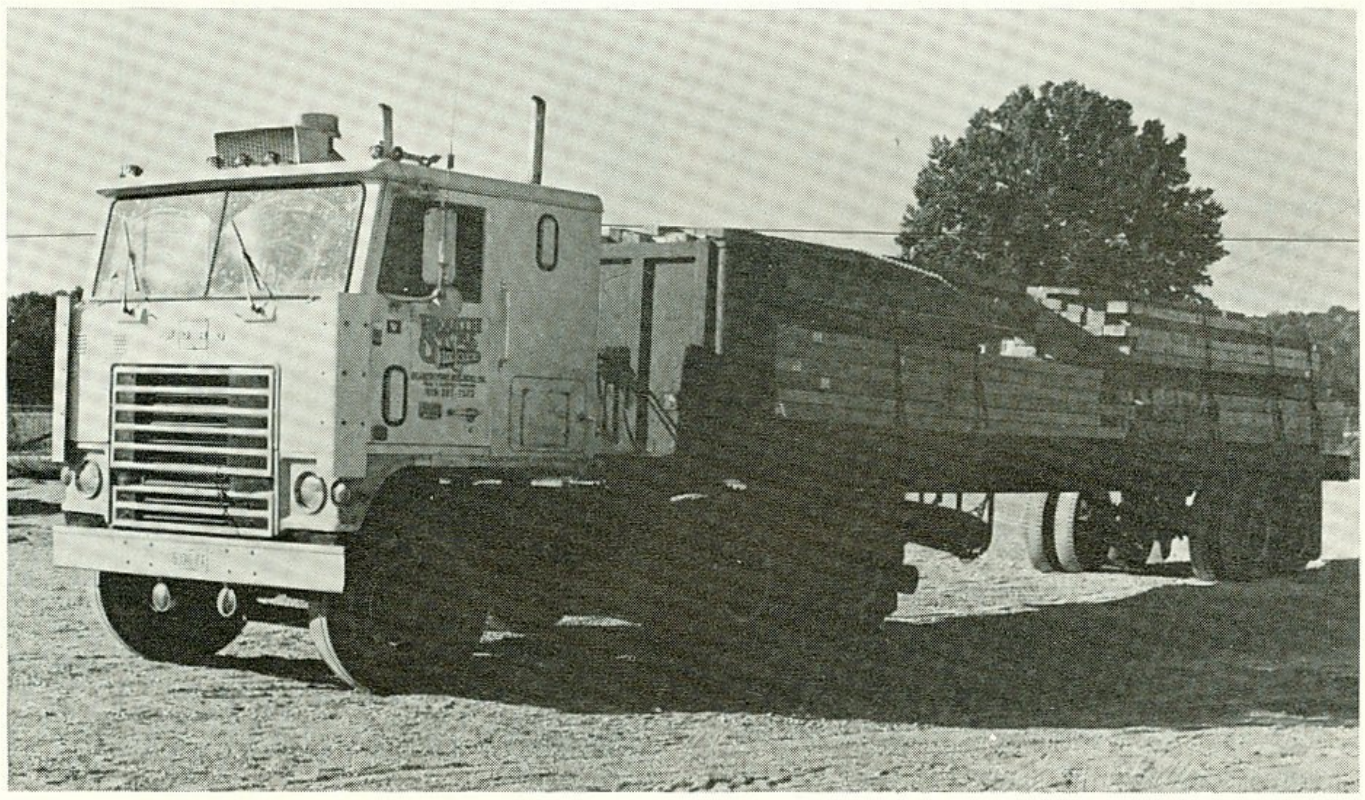




8
How far will you deliver?

We will deliver anywhere in the United States. Freight is per loaded mile from Dandridge, Tennessee. All contracts which exceed $11,000 (unerected price) will be 2 loads. Delivery can usually be made within 90 days from date of order.

Write us for information concerning the closest dealer to your area. We have dealers in Florida, Georgia, North Carolina, Tennessee, Kentucky and Indiana. We also welcome dealer inquiries.



9
How good are logs for insulation?

Log homes are very easy to heat and cool. Recent research by the Eastern Forest Products Laboratory of the Canadian Forestry Service has turned up some exciting new discoveries. It seems that all previous figures for "R" values were arrived at in strict laboratory conditions and do not reflect the actual heat loss in actual building situations. Furthermore, the materials were tested previously at a mean temperature of 73°F for the wood. Such a temperature is unrealistic in terms of a home, because we are not concerned about heat loss whenever the inside temperature is 73°F and the outside temperature is 73°F. The Canadian Forestry Service found that as the temperature drops, the thermal resistivity of wood increases. This discovery has a dramatic impact when applied to home heat loss situations.

In the E.F.P.S. tests (at about 10% moisture content and 41°F mean temperature of the wood that is, 14°F surface temperature on the cold side, 68°F on the warm side of the wood) the thermal resistivities measured were scattered between the boundaries of 1" R=1.5 and 2.1, or an average of 1"R=1.8. [5]

This report now confirms that R values of wood change with the temperature. For example, if the outside temperature was 20°F and the inside temperature was 68°F, 1" of white pine would have an R value of over 2.1 or 6" of white pine would be R=12.6 or better. When outside temperature is dropped to -20°F the R value of the 6" log increases to over 16. One should keep in mind that woods of greater density, such as oak, would be somewhat less capable of holding heat than white pine.

Research now also indicates that some conventional building materials have been overrated.

The effectiveness of insulation is a function of many variables including type, thickness, method of application, moisture conditions, house location and orientation, roof construction, heating system and how it is installed, infiltration, and living habits. [6]

However, none of these variables are even considered in the laboratory except the type and thickness of the insulation.

The standard laboratory test used to determine the "R" factor of a particular insulating material is only set up to determine the passage of heat through that material by conduction under fixed temperatures and only when the material tested is bone dry. No consideration is given in this test to convection and radiation losses, solar input, heat storage capabilities and the influence of moisture; all of which are very relevant to evaluating home insulation.

A test of R-13 rated fiberglass containing only 1½% moisture content indicates that it is actually only R-8.3, a loss of approximately 40%. Other data shows further losses due to compaction, settling, dust retention and additional moisture. In simplest terms, the tests for determining "R" factors are incomplete and totally inadequate for predicting the way insulation will perform in the field. [7]

Log homes have been used for hundreds of years. One may wonder how the pioneers managed to stay warm based upon the figures used by the regulating agencies in the U.S. and Canada. It is a known fact that log homes cost less to heat than conventional housing and have done so consistently.

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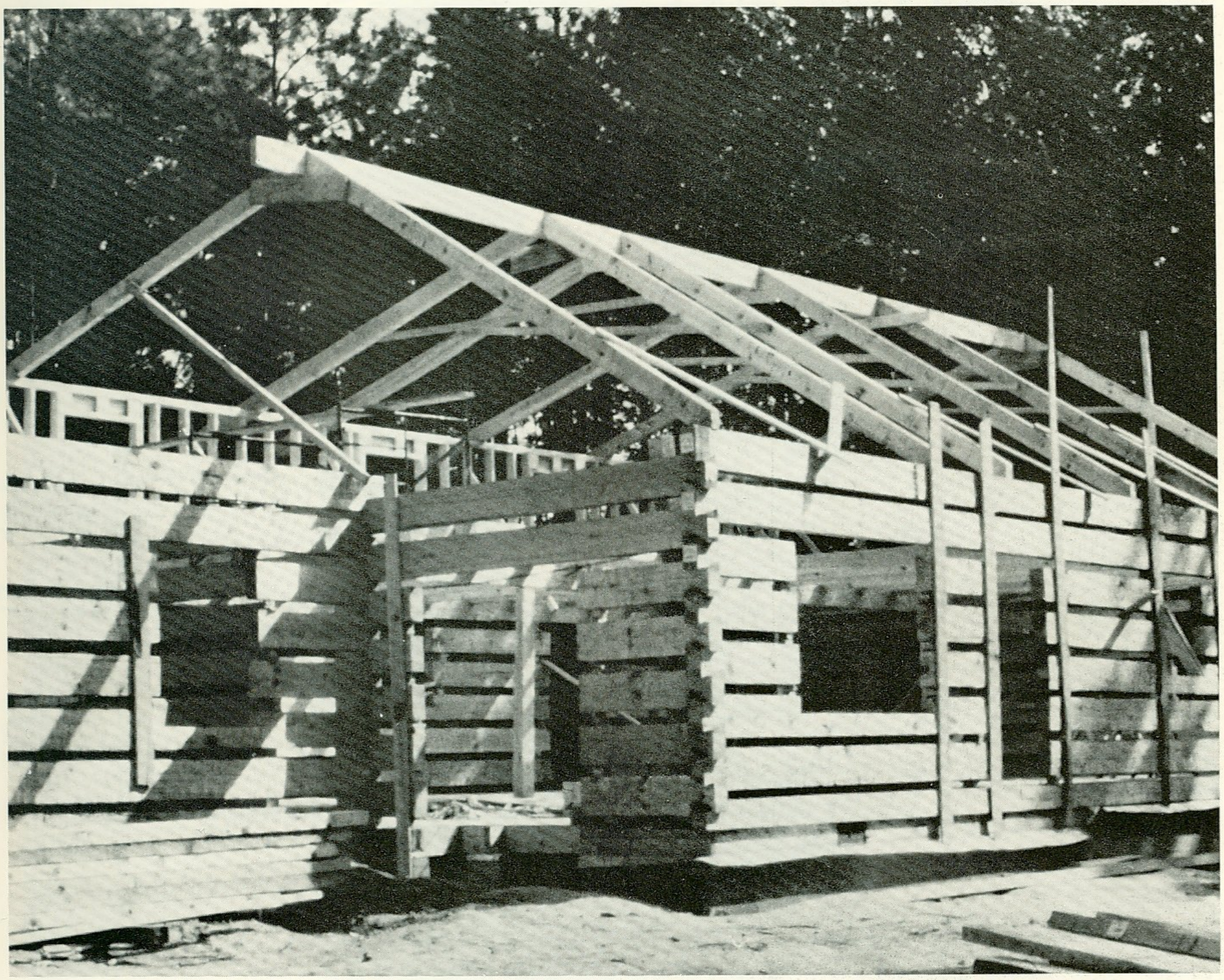
5. A. J. Nanassy and T. Szabo, *Thermal Resistivity of White Pine.* (Canadian Forestry Service : Ottawa, 1978) p. 2.

6. Allen B. Mackie, *Log House* (Prince George : Log House Publishing Co. Ltd., 1979), p. 34.

7. Doris L. Muir, *1979 Log Home Guide for Builders and Buyers* (Quebec : Muir Publishing Co. Ltd., 1979), p. 43.



10
What is included in the log package?



On our standard models, the following material is included:

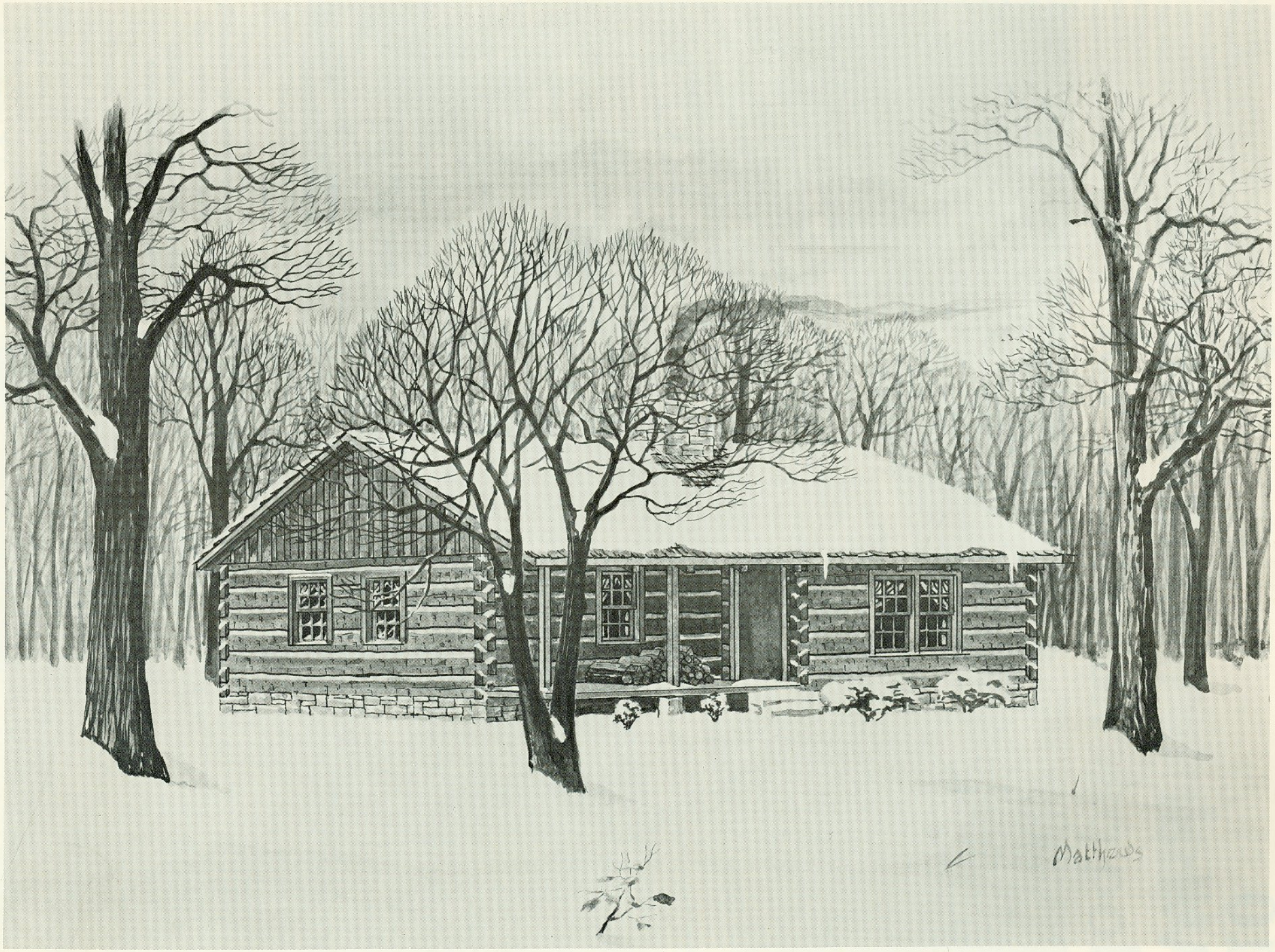
- All logs notched and fitted, pre-drilled for wiring and hand hewn. (Logs are 6" x12" in lengths up to 40 feet long.)
- Hand hewn girders where applicable crafted from 6"x12" logs and notched to accommodate overhead beams.
- Hand hewn rafters, pre-cut and spaced at4'-0" on center in lengths to 24 feet.
- Hand hewn ridge beams in lengths up to 24 feet.
- Overhead beams made from 4"x8" white pine or yellow pine in lengths to 18 feet, notched, fitted, hand hewn, and spaced at 2'-6" on center.
- Rough sawn porch rafters spaced at 2'-0" on center.
- Hand hewn porch posts 6"x6"x7 feet long.
- Porch beams hewn from 6"x6" pine in lengths to 16 feet long.
- Porch struts (end beams) hewn from 4"x6" pine.

Our trained crews can usually erect the logs in 1 or 2 days.

- A log mantle will be supplied with each model with a fireplace.

Three complete blueprints will be furnished with each model priced.

CEDAR LODGE



Materials List:

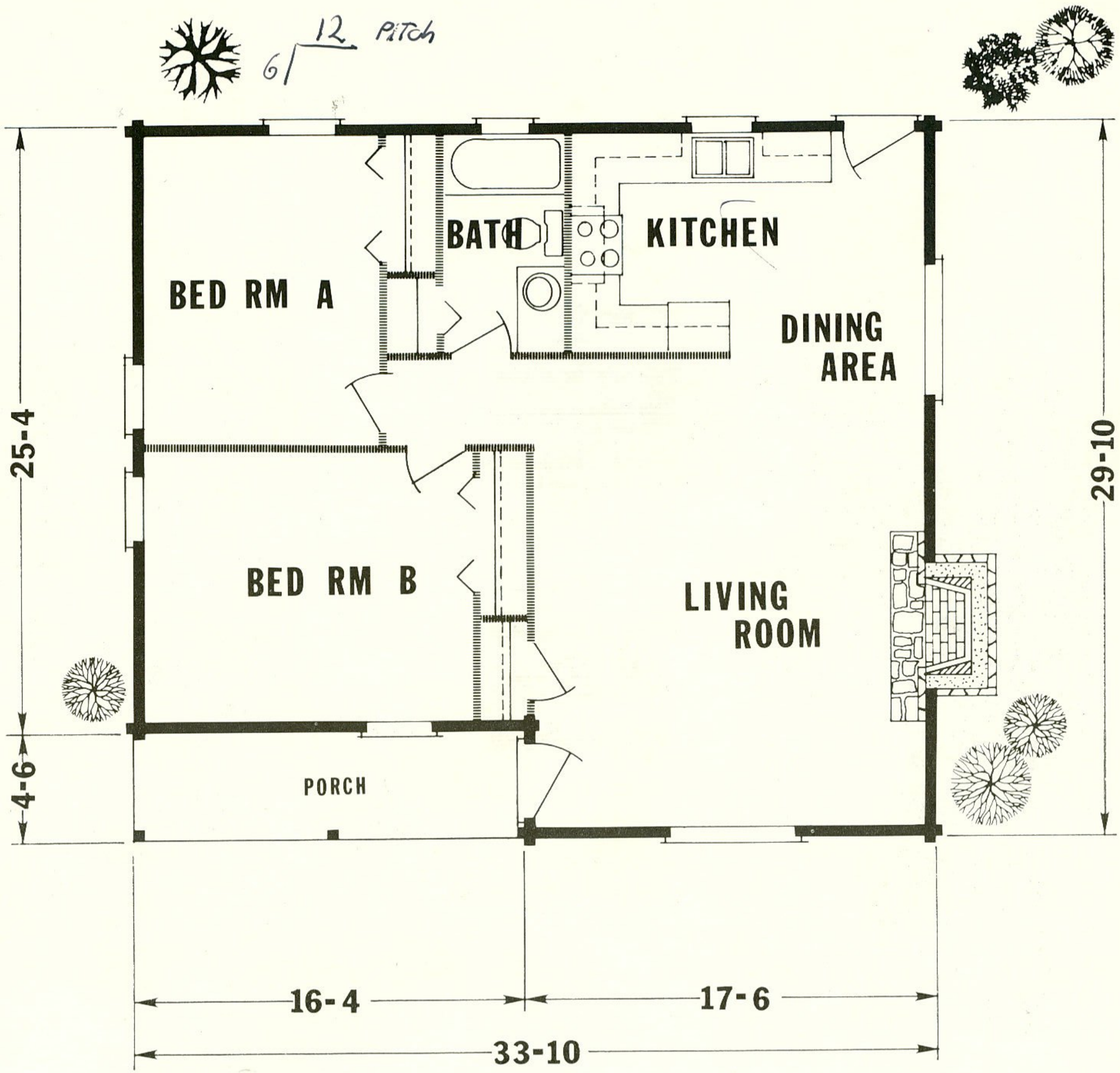
29′ 10″ x 33′ 10″ log building, 6 courses of logs

1 - 4x10 - 38′ Ridge Beam (lapped)
20 - 4x8 - 18′-2½″ Rafters
5 - 4x8 - 14′ Wind Beams

2 - 6x6 - 14′ Porch Posts
4 - 4x6 - 2′ Angle Brackets

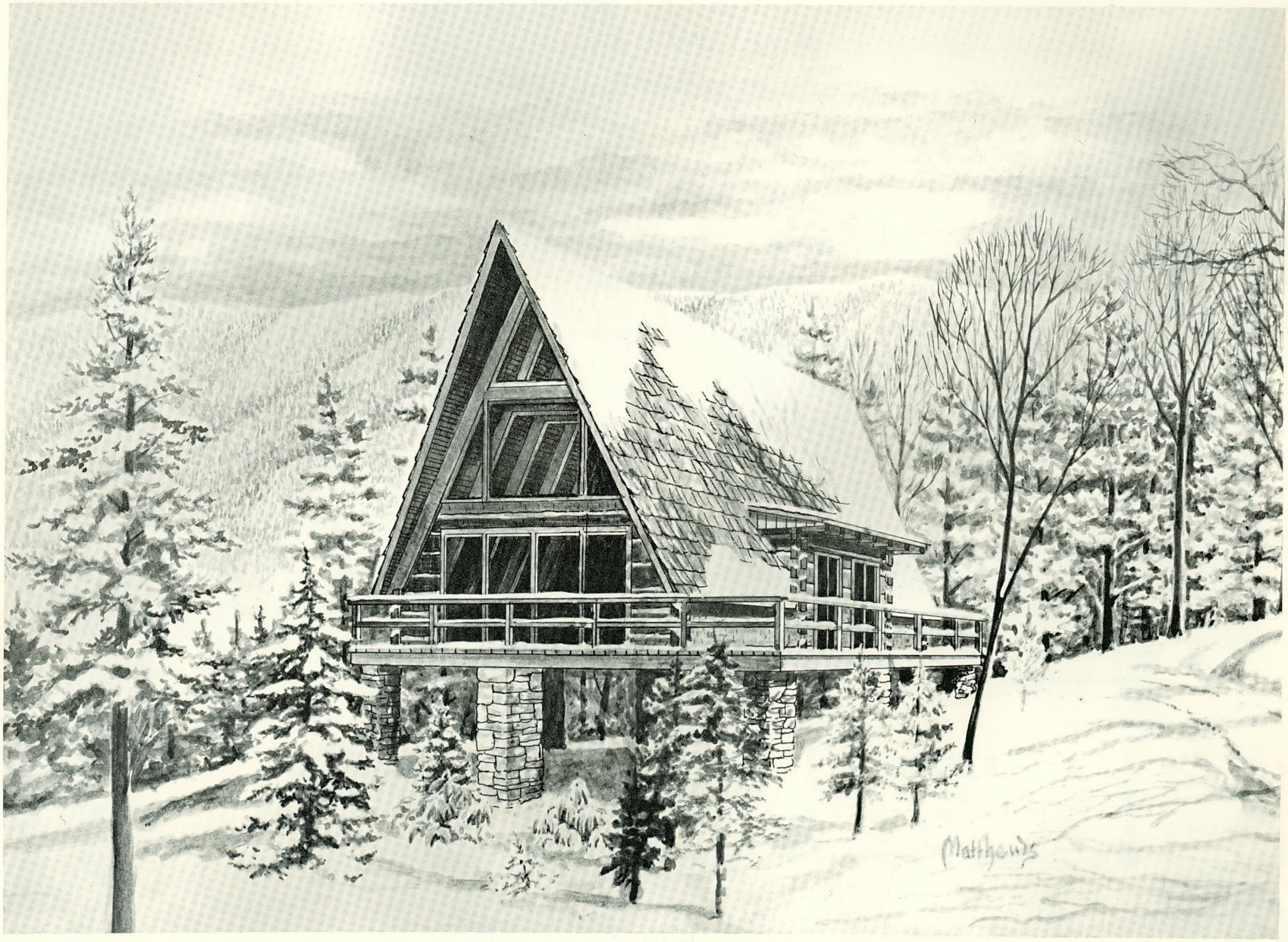
1 - 4x12 - 8′ Mantle
2 Mantle Brackets
30 - 1x4 Roughsawn random length misc. braces
12″ spike nails for every dovetail
7″ nails for sills and rafters

20 - ½x9″ Bolts w/washers & nuts
2 - ½x11″ Bolts w/washers & nuts



FLOOR PLAN

CHALET



Materials List:

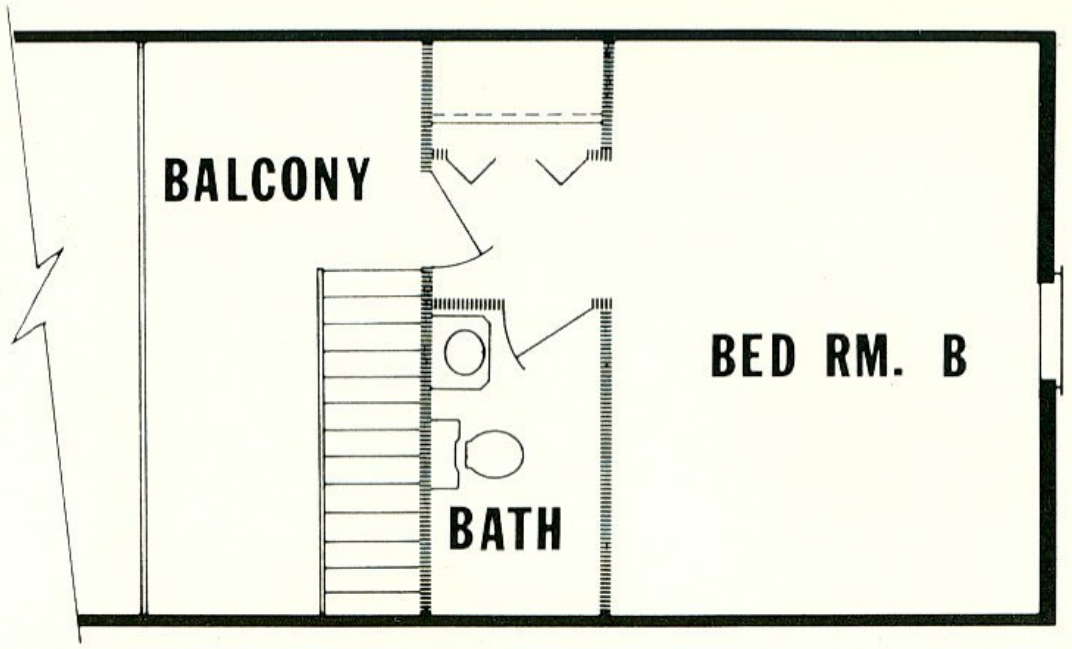
20′ 0″ x 40′ 0″ log building (slab floor)
3 & 6 courses of logs
2 Girders 16′ long

3 - 4x8 - 16′ 4″ Ceiling Beams
7 - 4x8 - 24′
1 - 2x8 - 16′ 4″ Nailors
4 - 4x8 - 8′ Header Beams
4 - 6x8 - 8′ Girder Post

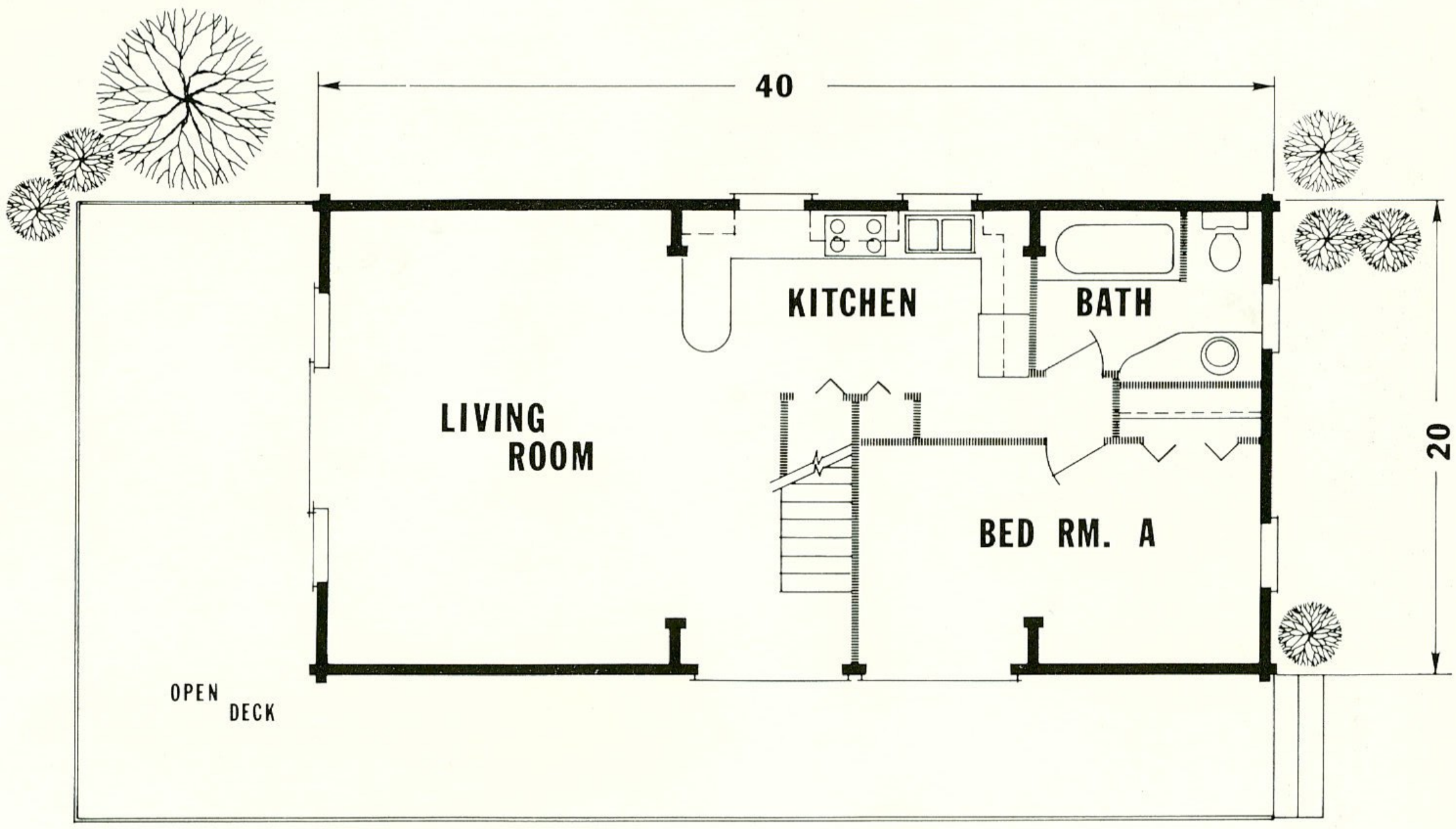
6 - 4x8 - 24′ Rafters
8 - 4x8 - 20′ Rafters
4 - 6x8 - 24′ End Rafters
2 - 6x8 - 8′ 8″ Wind Beam
7 - 4x8 - 8′ 8″ Wind Beam

20 - 1x4 misc. Braces - roughsawn - random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

36 - ½″ x 9″ Bolts w/washers & nuts
9 - ½″ x 13″ Bolts w/washers & nuts

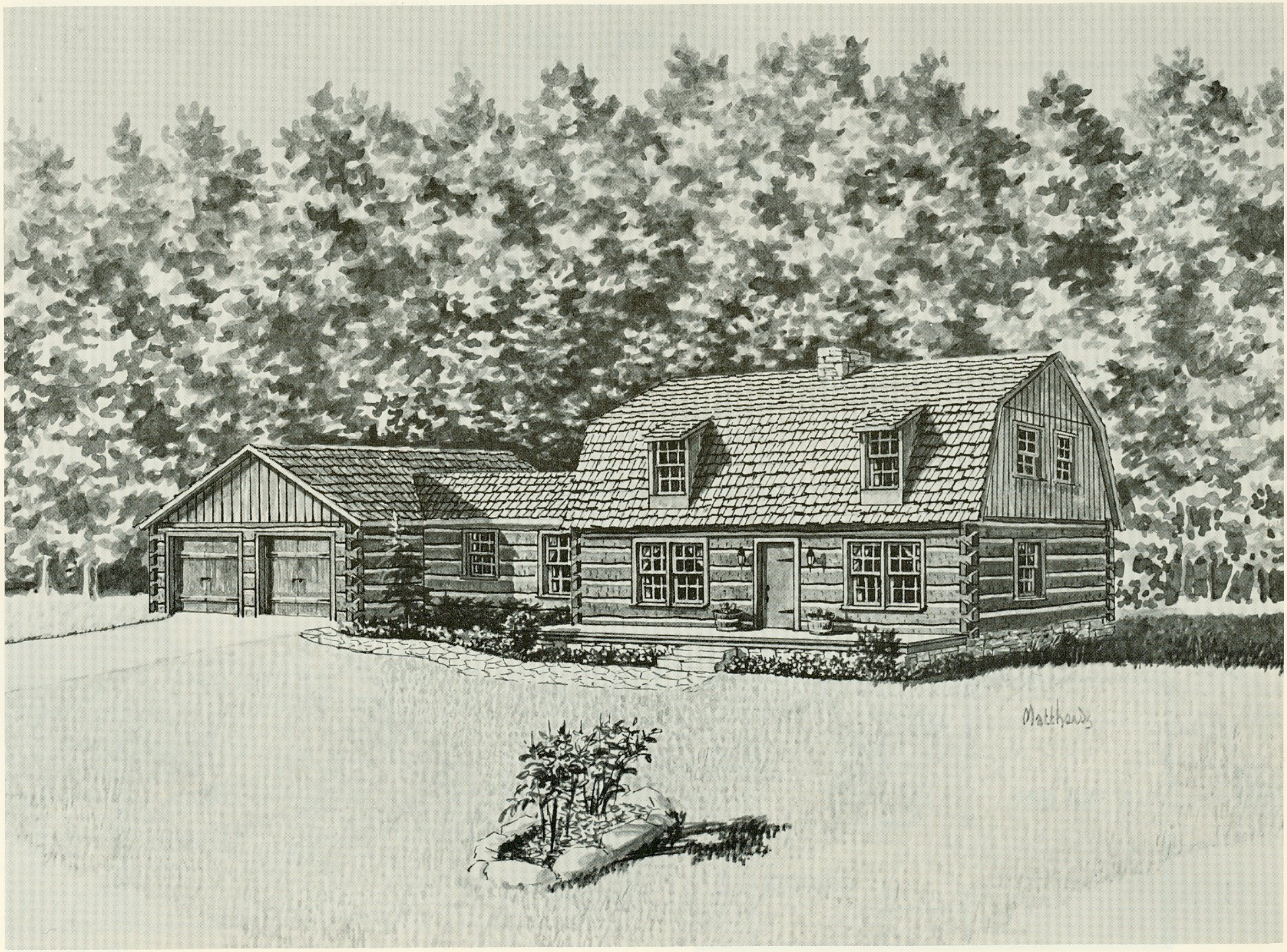


SECOND FLOOR PLAN



FIRST FLOOR PLAN

CHARLESTON



Materials List:

27′ 10″ x 35′ 10″ + 16x22′ 10″ + 23′ 10″ x 25′ 10″ log building
6 courses of logs
1 Girder 36′ 2″ long (lapped)

25 - 4x8 - 13′ 8″ Ceiling Beams
1 - 4x8 - 4′ 7″ Ceiling Beam
1 - 4x8 - 9′ 5″ Ceiling Beam
4 - 2x8 - 13′ 8″ Nailors
1 - 4x10 - 5′ 4″ Header Beam

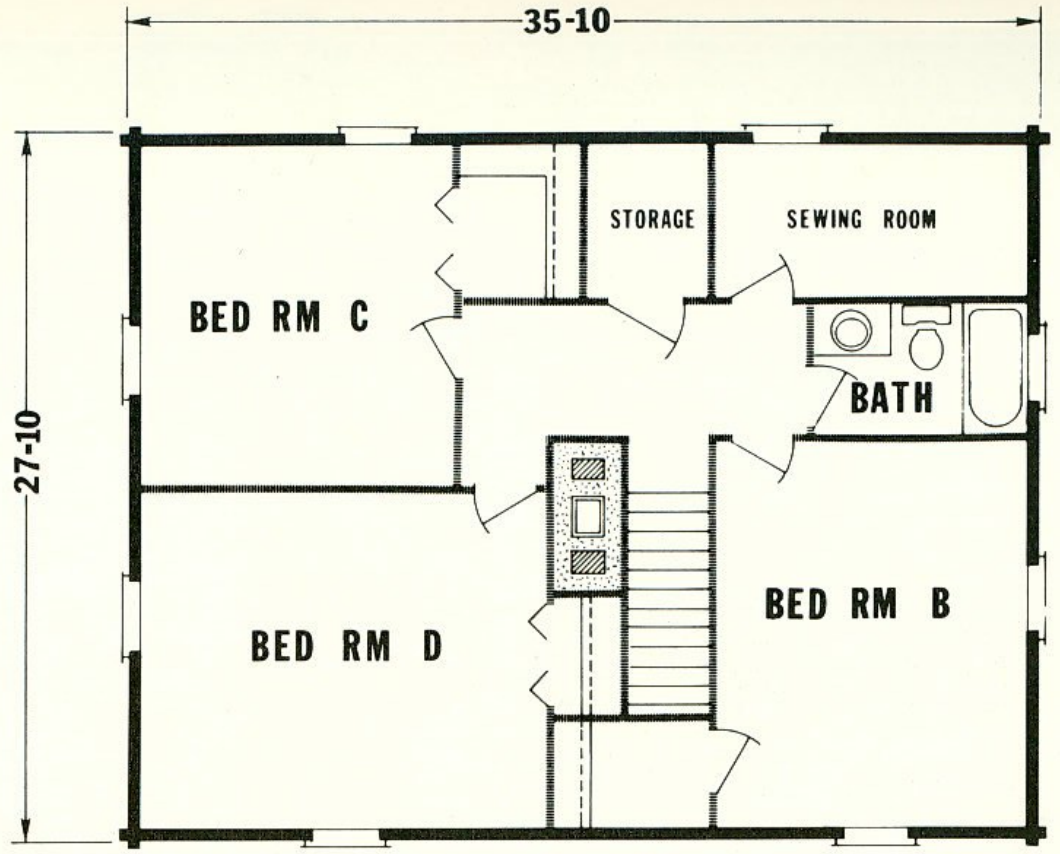
9 - 4x8 - 14′ (3-ridges lapped) Ridge
1 - 4x8 - 24′ (lapped) Ridge Beam

21 - 4x6 - 10′ 3¼″ Rafters
20 - 4x6 - 9′ 7 1/16″ Rafters
10 - 4x6 - 10′ 1⅜″ Rafters

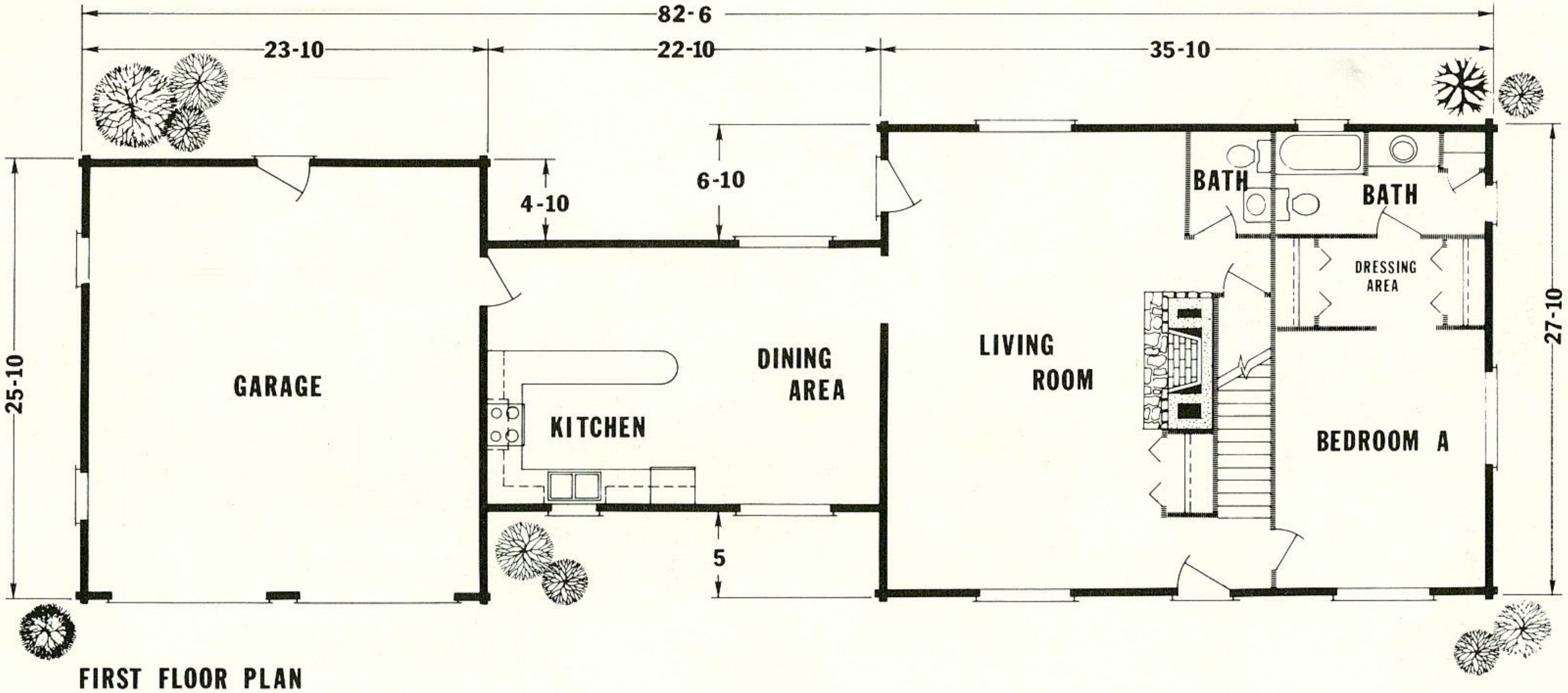
4 - 4x8 - 16′ Wind Beams
3 - 5x6 - 10′ Wind Beams

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
60 - 1x4 Misc. bracing; roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

26 - ½x9″ Bolts w/washers & nuts
12 - ½x11″ Bolts w/washers & nuts

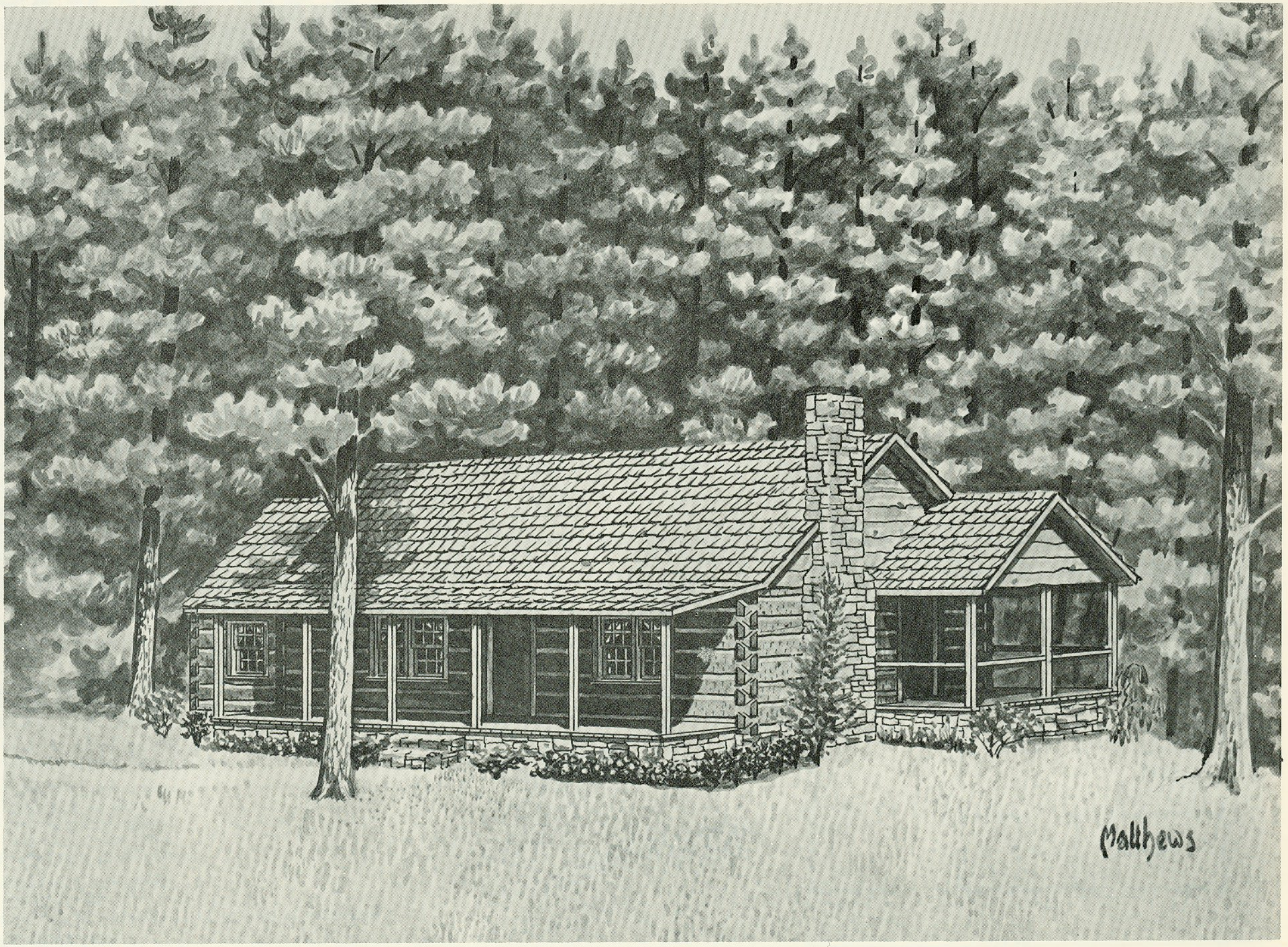


SECOND FLOOR PLAN



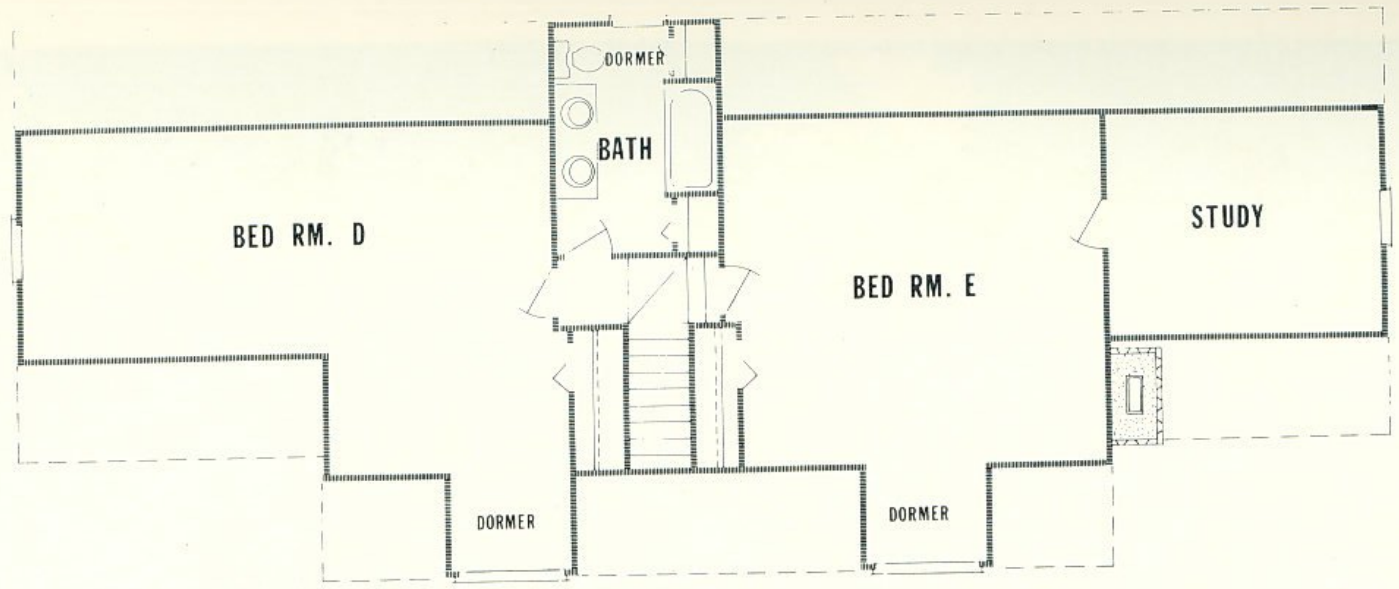
FIRST FLOOR PLAN

CHEROKEE

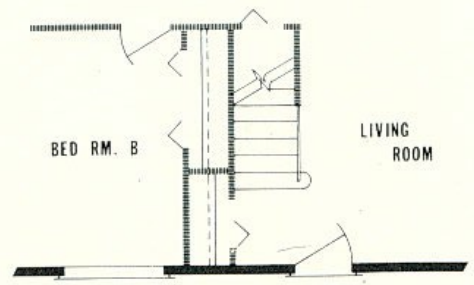


Materials List:

	1st Story Option	2nd Story Option
Log Buildings	27′-10″x39′-10″ 15′ 4″ x 21′ 10″ 6 courses, 1436 sq. ft. 600 sq. ft. porches	27′-10″x39′-10″ 15′ 4″ x 21′ 10″ 6½ courses, 2500 sq. ft. 600 sq. ft. porches
6″ x 12″ girder		55′ 6″ (lapped)
4″ x 8″ beams		14 ea. @ 15′ 7″ 21 ea. @ 11′ 9″ 5 ea. @ 9′ 7″ 1 ea. @ 1′ 8″ (header)
2″ x 8″ nailors		2 ea. @ 11′ 9″ 1 ea. @ 6′ 0″ 1 ea. @ 15′ 7″
6″ x 6″ posts	6 ea. @ 7′ 0″ 6 ea. @ 8′ 0″	7 ea. @ 7′ 0″ 6 ea. @ 8′ 0″ 1 ea. (temporary girder supports)
4″ x 10″ Ridge Beams		1 ea. @ 18′ 0″ 1 ea. @ 46′ 0″ (lapped) 1 ea. 2 x 18 @ 16′ 0″ (rough)
4″ x 8″ trusses or rafters	21 ea. (2x4 trusses) 27′-10 ~~28′ 0″~~ (5/12 slope) 15 ea. 2 x 4 trusses) 21′-10 ~~22′ 0″~~ (5/12 slope)	9 ea. @ 15′ 7½″ 9 ea. @ 16′ 10 3/6″ 13 ea. @ 19′ 3 5/8″ 15 ea. @ 15′ 8½″ (rough)
Ridge post		3 ea. 4 x 6 x 10′ 0″ (temporary)
6″ x 6″ porch beams	1 ea. @ 8′ 0″ 1 ea. @ 10′ 0″ 1 ea. @ 12′ 0″ 3 ea. @ 14′ 0″ 1 ea. @ 16′ 0″	1 ea. @ 8′ 0″ 1 ea. @ 10′ 0″ 1 ea. @ 12′ 0″ 3 ea. @ 14′ 0″ 1 ea. @ 16′ 0″
4″ x 6″ angle bracket	24 ea.	24 ea.
4 x 6 end struts	2 ea. @ 8′ 0″	2 ea. @ 8′ 0″
2 x 4 porch rafters	19 ea. @ 10′ 0″	19 ea. @ 10′ 0″ (rough)
4″ x 10″ mantle	1 ea. @ 8′ 0″	1 ea. @ 8′ 0″
wood mantle brackets	2 ea.	2 ea.
bracing	30 pieces	30 pieces
⅜″ x 12″ steel spikes	72 ea.	78 ea.
7″ steel spikes	82 ea.	82 ea.
½″ carriage bolts	2 ea. @ 13″ long	4 ea. @ 13″ long 28 ea. @ 9″ long 2 ea. @ 11″ long

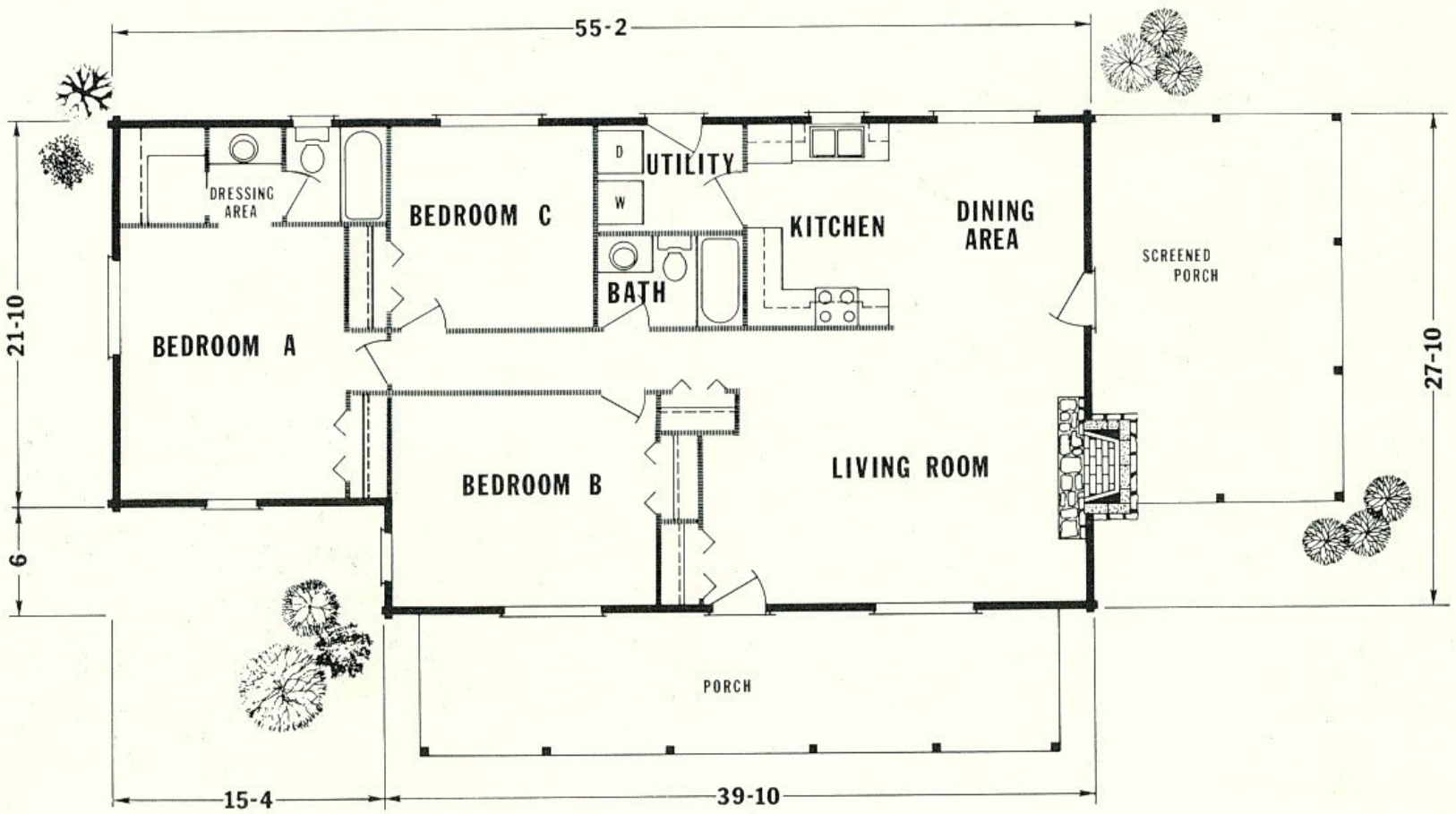


ALTERNATE SECOND FLOOR PLAN



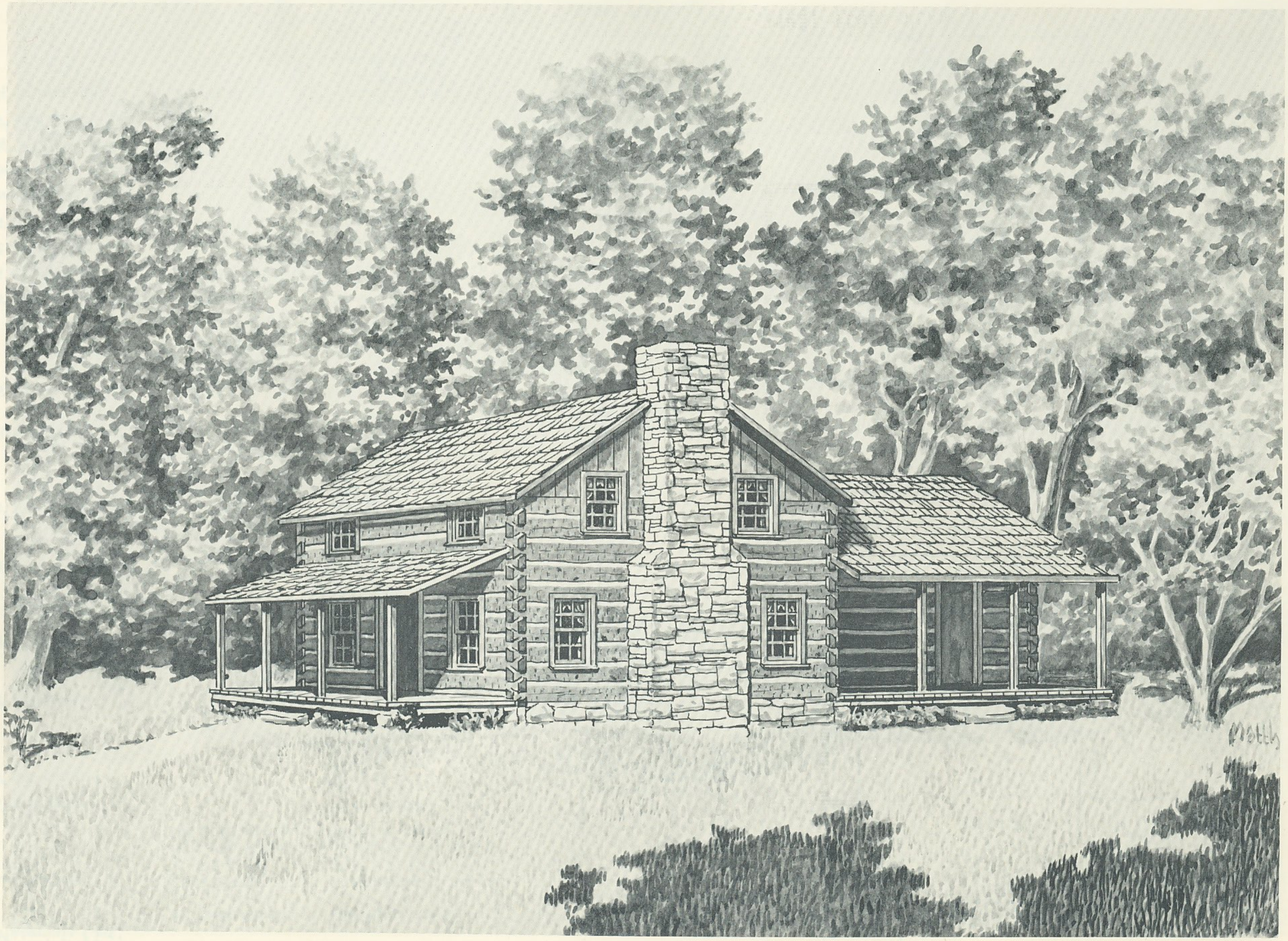
ALT. FIRST FLOOR PLAN

ALT. FIRST FLOOR PLAN



FLOOR PLAN

CONTINENTAL I & II



Continental I

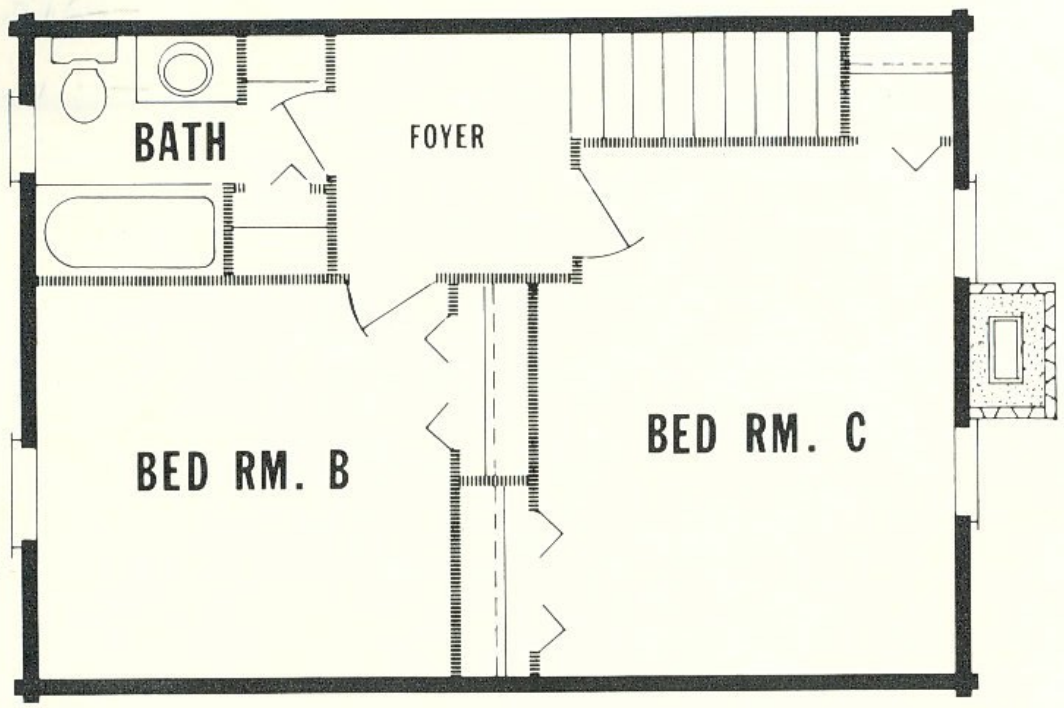
Materials List:

19′ 10″ x 27′ 10″ + 18′ 0″ x 19′ 6″ log building
10 & 6 courses of logs
1 Girder 17′ 4″ long

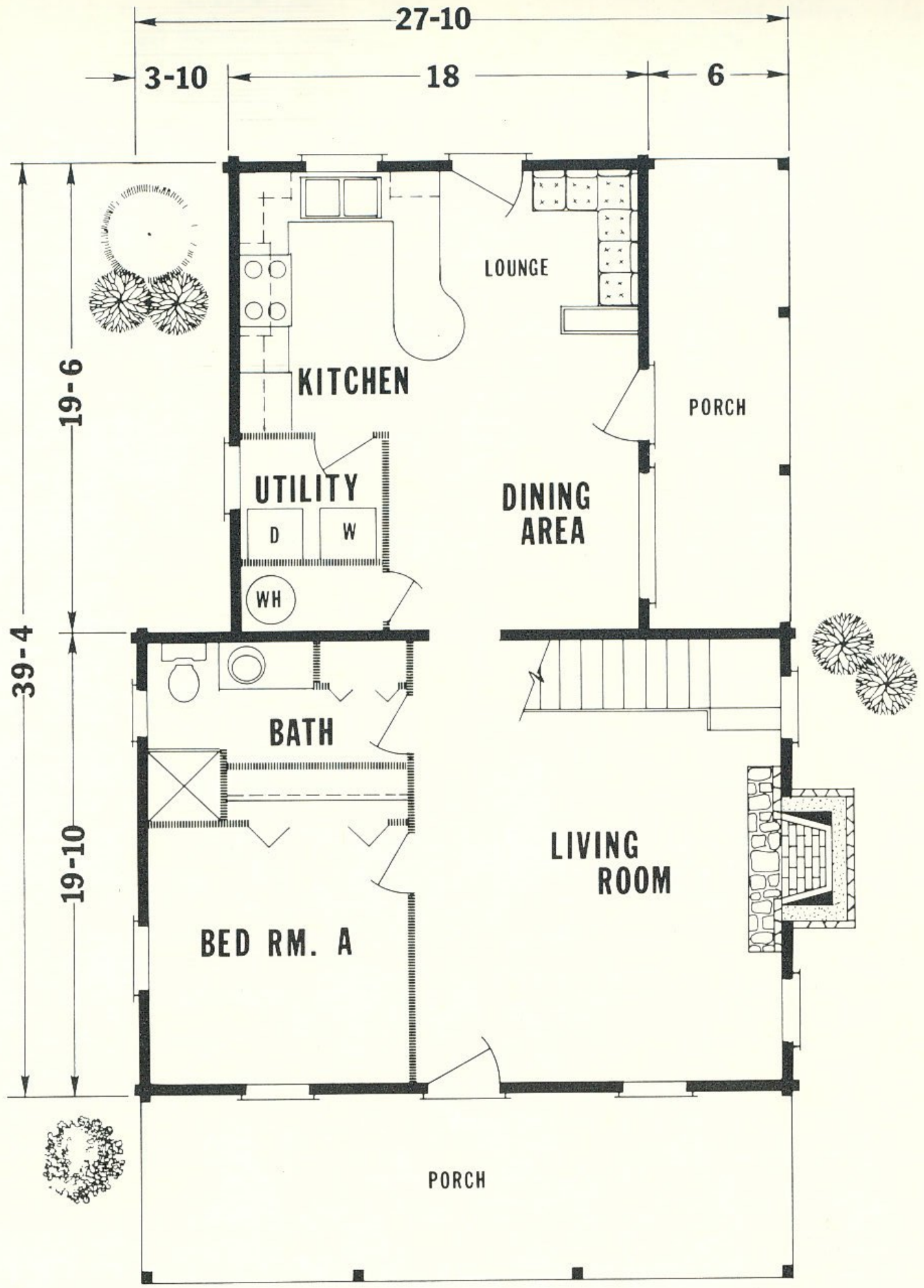
4 - 4x8 - 19′ 4″ Ceiling Beams
3 - 4x8 - 16′ 1″ Ceiling Beams
4 - 4x8 - 19′ 4″ Ceiling Beams
1 - 2x8 - 19′ 4″ Nailor
1 - 4x10 - 30′ Ridge Beam
1 - 4x10 - 22′ Ridge Beam
10 - 4x6 - 11′ 9¼″ Rafters
16 - 4x6 - 13′ 4½″ Rafters
2 - 4x8 - 12′ Wind Beams

7 - 6x6 - 7′ Porch Posts
3 - 6x6 - 10′ Porch Beams
1 - 6x6 - 12′ Porch Beam
1 - 6x6 - 14′ Porch Beam
16 - 4x6 - 2′ Angle Brackets
1 - 4x6 - 6′ End Strut
2 - 4x6 - 8′ End Struts
22 - 2x4 - 10′ Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
30 - 1x4 Misc. braces - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters
8 - ½x9″ Bolts w/washers & nuts
4 - ½x11″ Bolts w/washers & nuts



SECOND FLOOR PLAN



FIRST FLOOR PLAN

Continental II

Materials List:

20' 0" x 29' 10" + 18' 0" x 19' 6" log building
11 & 6 courses of logs
1 Girder 19' 10" long

7 - 4x8 - 19' 6" Ceiling Beams
4 - 4x8 - 16' 0" Ceiling Beams
2 - 2x8 - 19' 6" Nailors
1 - 4x8 - 4' 0" Header Beam

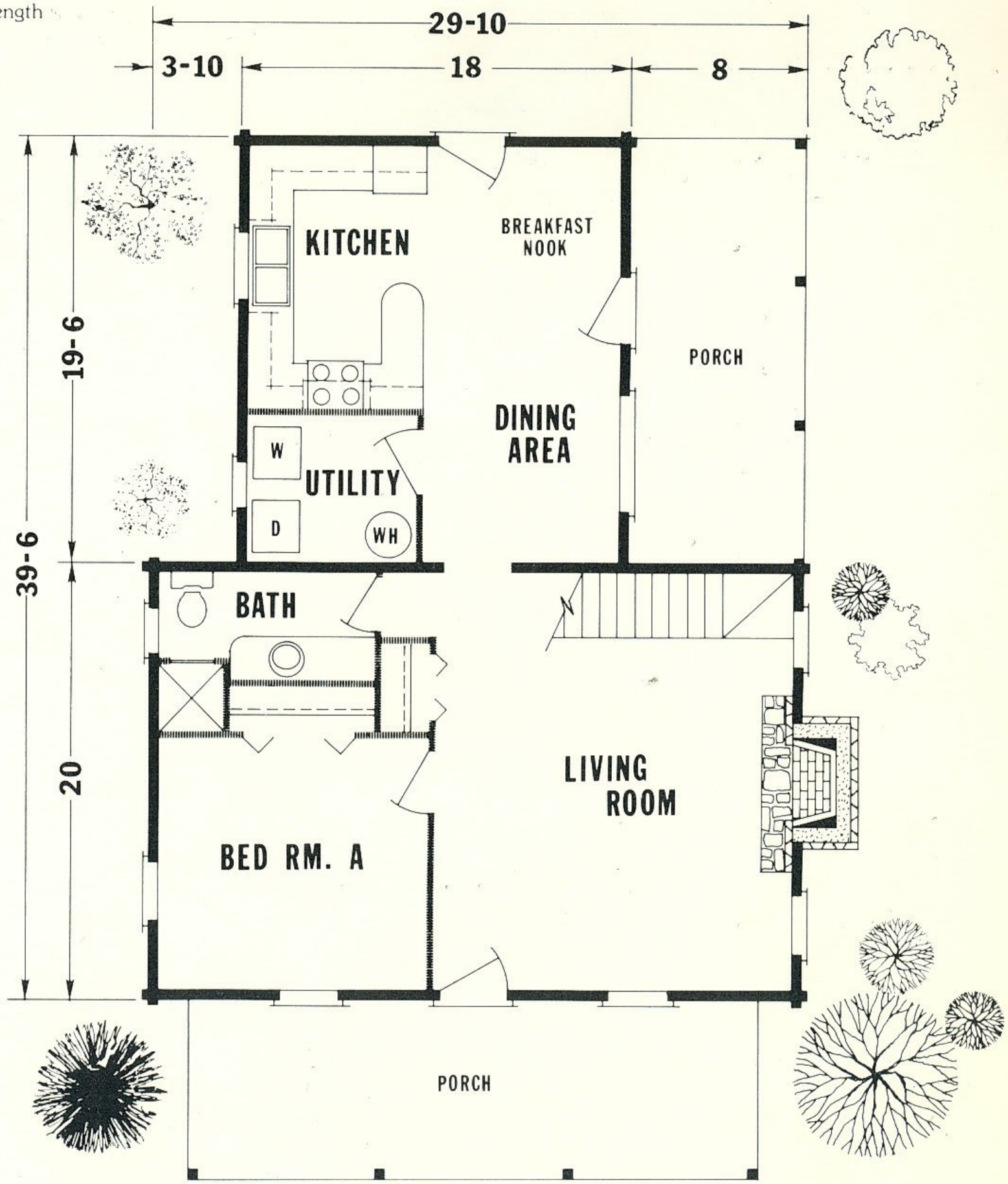
1 - 4x8 - 32' Ridge Beam (lapped)
1 - 4x8 - 22' Ridge Beam (lapped)
10 - 4x6 - 11' 9¼" Rafters
18 - 4x6 - 13' 5½" Rafters
2 - 4x8 - 12' Wind Beam

7 - 6x6 - 7' Porch Posts
4 - 6x6 - 10' Porch Beams
1 - 6x6 - 12' Porch Beam
16 - 4x6 - 2' Angle Brackets
3 - 4x6 - 8' End Struts
22 - 2x4 - 10' Porch Rafters

1 - 4x12 - 8' Mantle
2 - Mantle Brackets
30 - 1x4 Misc. braces - Roughsawn random length
12" spike nails for every dovetail
7" nails for sills and rafters

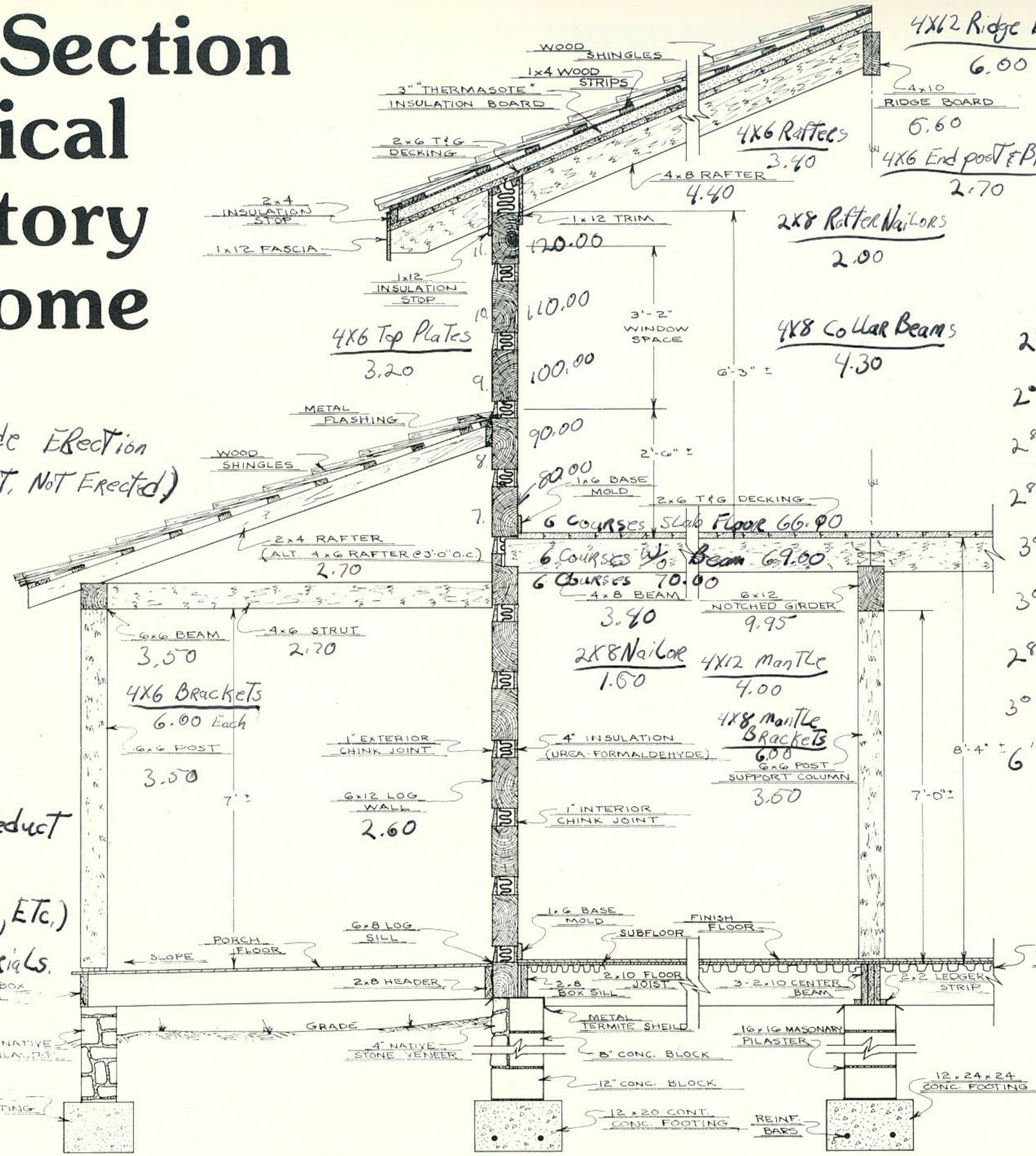
10 - ½x9" Bolts w/washers & nuts
4 - ½x11 Bolts w/washers & nuts

SECOND FLOOR PLAN



FIRST FLOOR PLAN

Cross Section of Typical Two-Story Log Home



NOTE

(1) ALL Prices Shown include ERection of Log Package (Porch Mat. NOT Erected)

(2) Price for 6X12 Log walls include STd. GROOVE & hardboard Splines Mat. & Polyurethane Weather Sealant, inside & Outside.

(3) FOR unerected price - deduct 25% on Roof mat. (Rafters, Ridge, Collar Beam, ETc.) 15% on ALL other Materials.

(4) Add 11.00 per Lin ft. for Logs above 11 Logs.

(5) Deduct 9.00 per Lin ft. for Logs ELiminated by openings (window, Door, Fireplaces & Etc.)

Size	& Type Opining	Footage
2° 3²	Windows	4'-0"
2° 4⁶	"	6'-0"
2⁸ 3²	"	5'-4"
2⁸ 4⁶	"	8'-0"
3° 3²	"	6'-0"
3° 4⁶	"	9'-0"
2⁸ 6⁸	Doors	13'-4"
3° 6⁸	"	15'-0"
8'-4" ± 6' 0"	Fireplace	30'-0"

2X12 Header Band 2.60

4X10 Header (Notched) 4.25

4X12 Header (Notched) 4.70

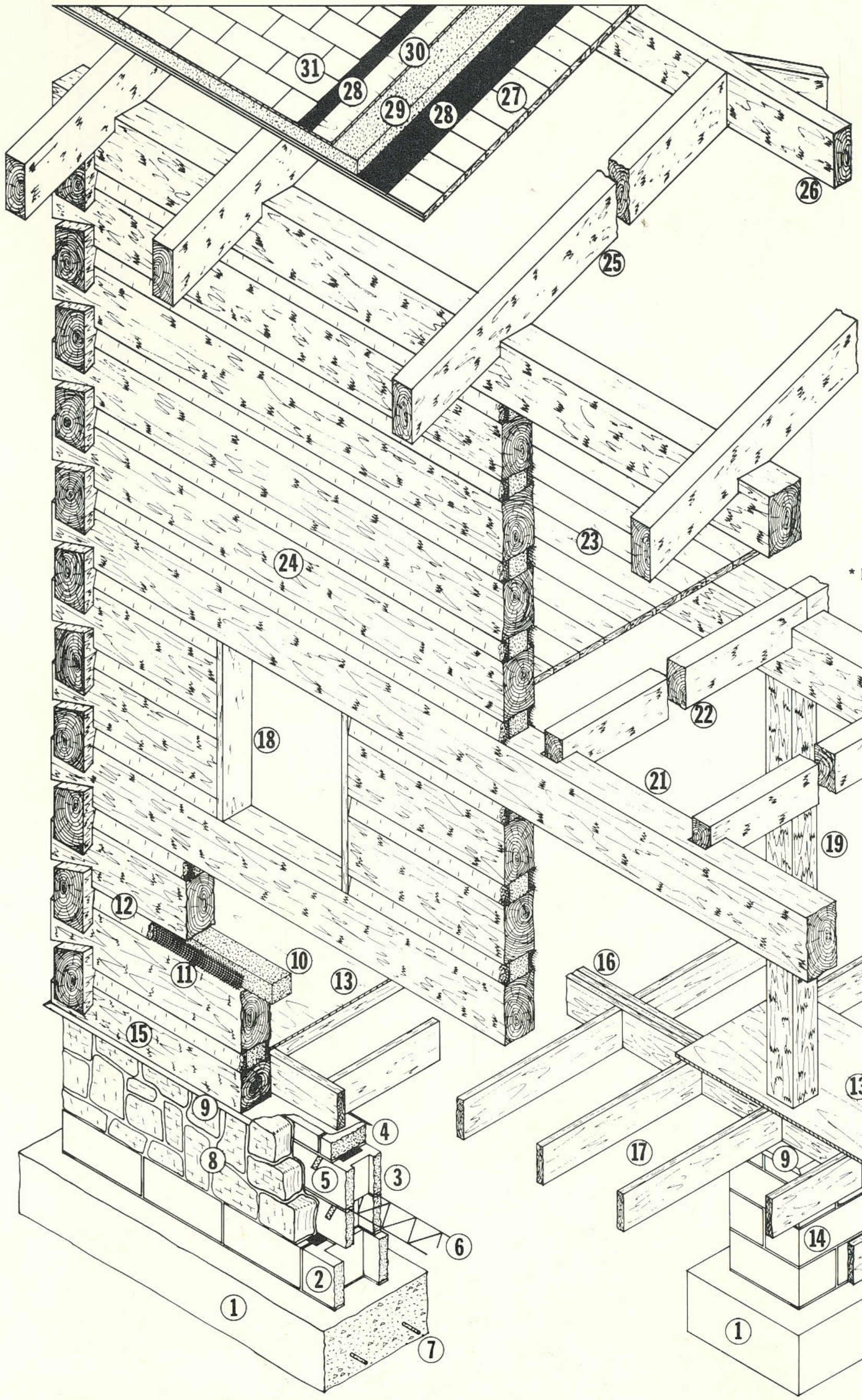
4X6 Banister Post 9.50 Each

4X10 Log Steps 3.75

4.00 = 4X12 Stair Stringer

Conc. FLOORS Thickness ÷ 324 = ? Sq. Ft. of house ÷ ? = Yards

Board Feet = with x Heigh x Lenth ÷ 144 = ?
6" x 12" x 12" ÷ 144 = ?



LEGEND

1. Concrete footing
2. 12" starter block
3. 8" concrete block
4. 4" solid cap block
5. Metal wall ties
6. Metal reinforcing
7. Reinforcing bars
8. Native stone veneer
9. Metal termite shield
10. Foam insulation
11. Hardware Screen
12. Cement chink joint
13. Subflooring
14. Masonary pier
* 15. 6x8 hewn log sill
16. Center beam
17. Floor joist
18. Window jamb
* 19. 6x6 hewn girder post
* 20. 6x12 hewn girder
* 21. 6x12 hewn beam log
* 22. 4x8 hewn beam
23. 2x6 T&G floor decking
* 24. 6x12 hewn log wall
* 25. 4x8 hewn rafter
* 26. 4x10 hewn ridge beam
27. 2x6 T&G roof decking
28. Roofing felt
29. 3" ridgid foam insulation board
30. Nail board
31. Asphalt shingles

* Furnished by Hearthstone Builders, Inc.

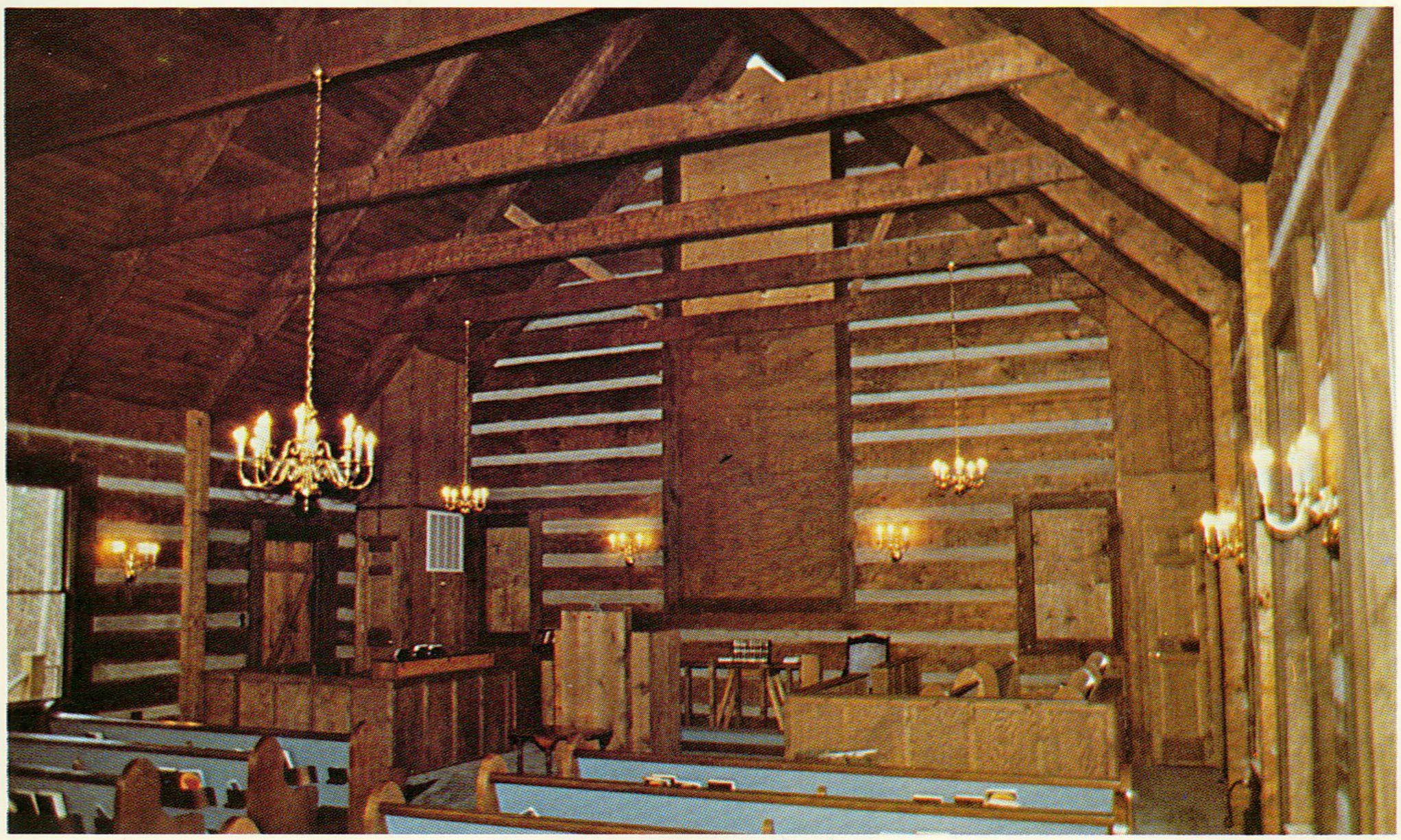
Exploded View





(Left and Center)
Hearthstone erects almost all the homes that are sold. This erection service assures the owner that the logs are alligned properly and that the walls will be plumb and level. A crane truck is used to handle the logs, which can weight hundreds of pounds.

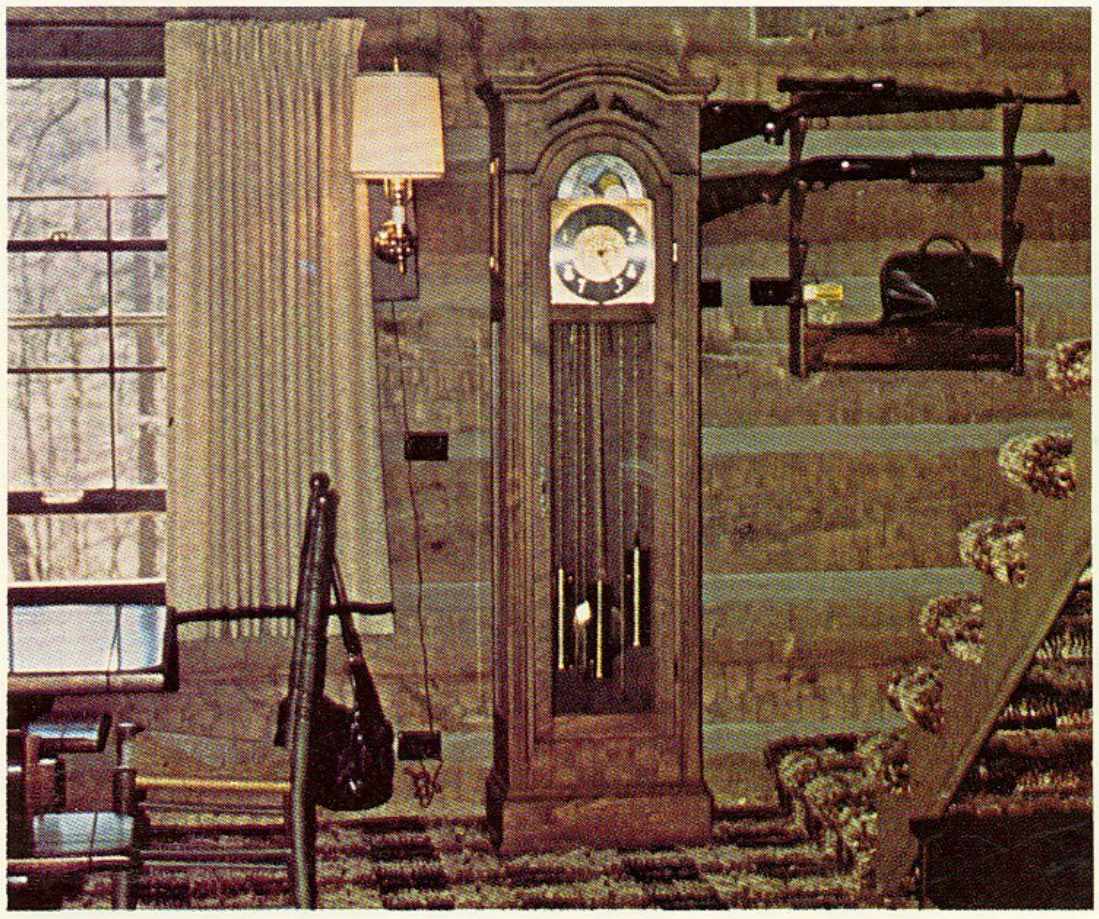
(Below)
We have had the privilege of building three log church buildings. The Church of the Wildwood, Macon, GA., shows how adaptable logs are to a place of worship. Few people will pass this church on the road, or enter it for a service, without being permanently impressed with its beauty and uniqueness. We are especialy glad to leave such a building for future generations to appreciate.







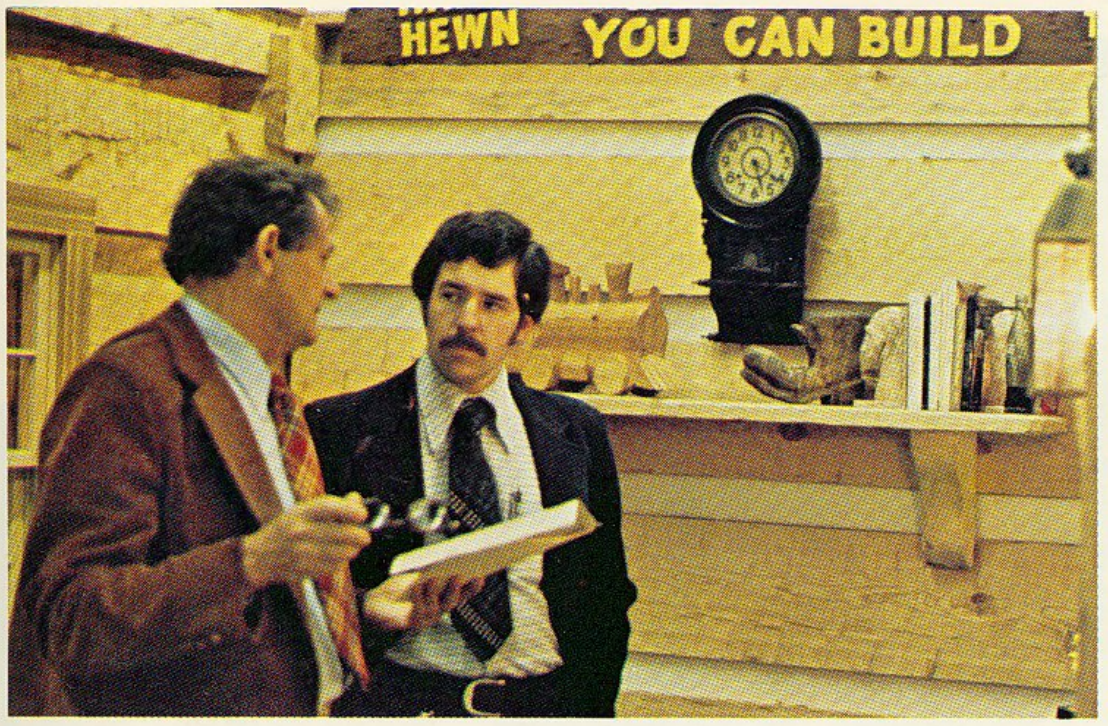




(Top left and right)
Most owners elect to build their own homes. James Greene of Whitesburg, TN. built his own home. The hand cut limestone chimney is from an old home. The Greenes have a home that their grandchildren can be proud of.

(Center)
A back porch like this one is just the place to relax after a long day of work. This custom home, built for Mr. & Mrs. Bill Clark of Knoxville, TN. is just as cozy on the inside.

(Lower Left)
Log homes offer an opportunity for a wide variety of decor. Needless to say, antique furniture looks the best, but modern and contemporary furniture will usually work just fine.



(Top Left)
Hearthstone participates in home shows where the public is invited to see examples of our work. At the 1979 Nashville Home Show, Hearthstone and its Middle Tennessee dealer, Fireside Log Homes, combined efforts to provide an attractive display. The exhibit placed fourth in judging among over 150 exhibitors. Presently, eight Hearthstone dealers have model homes on display for the public.

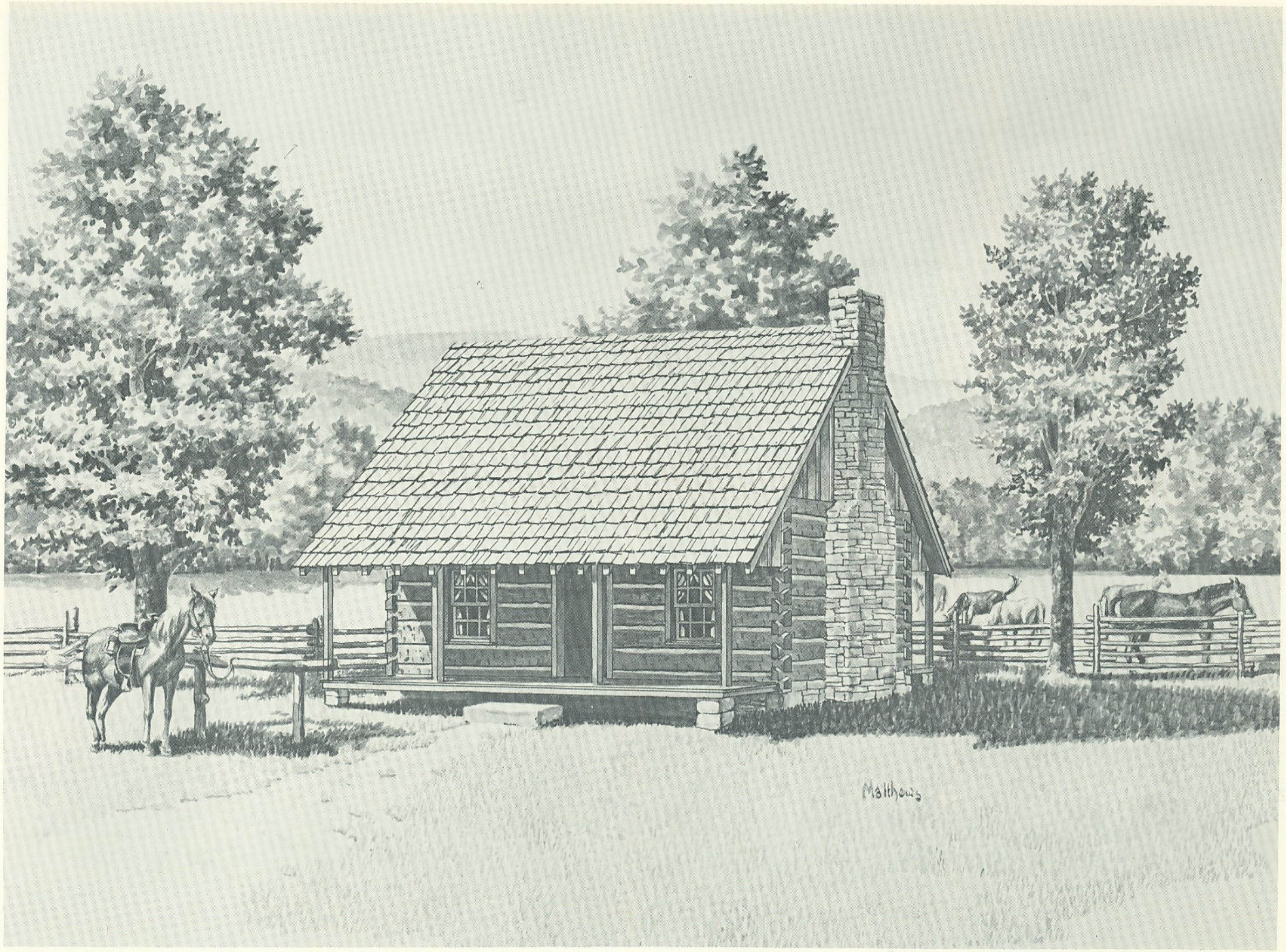
(Center Left and Right)
Almost everyone wants a fireplace in their log home. Many also include a wood stove, which is more efficient for heating, but a fireplace can't be beat for sheer beauty.

(Bottom)
This bedroom in the Johnny Meeks home shows just how elegant a log home can be. We've come a long way since the first log homes were built in this country.





CROCKET



Materials List:

21′ 10″ x 25′ 10″ log building
9 courses of logs
1 Girder 16′ 10″ long

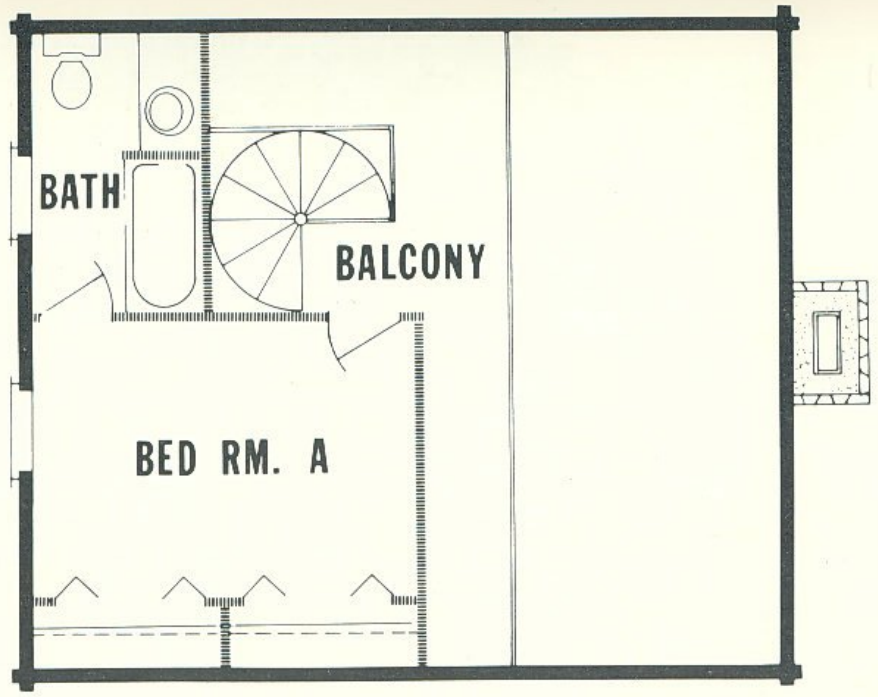
7 - 4x8 - 11′ 9″ Ceiling Beams
5 - 4x8 - 9′ 7″ Ceiling Beams
4 - 4x8 - 4′ 0″ Ceiling Beams
1 - 2x8 - 9′ 7″ Nailor
1 - 2x8 - 11′ 9″ Nailor
1 - 4x8 - 3′ 6″ Header Beam
1 - 4x8 - 4′ 6″ Header Beam
1 - 4x8 - 7′ 2″ Header Beam
1 - 6x6 - 8′ Girder Post

1 - 4x10 - 30′ Ridge Beam (lapped)
16 - 4x8 - 15′ 2½″ Rafters
4 - 4x8 - 14′ Wind Beams

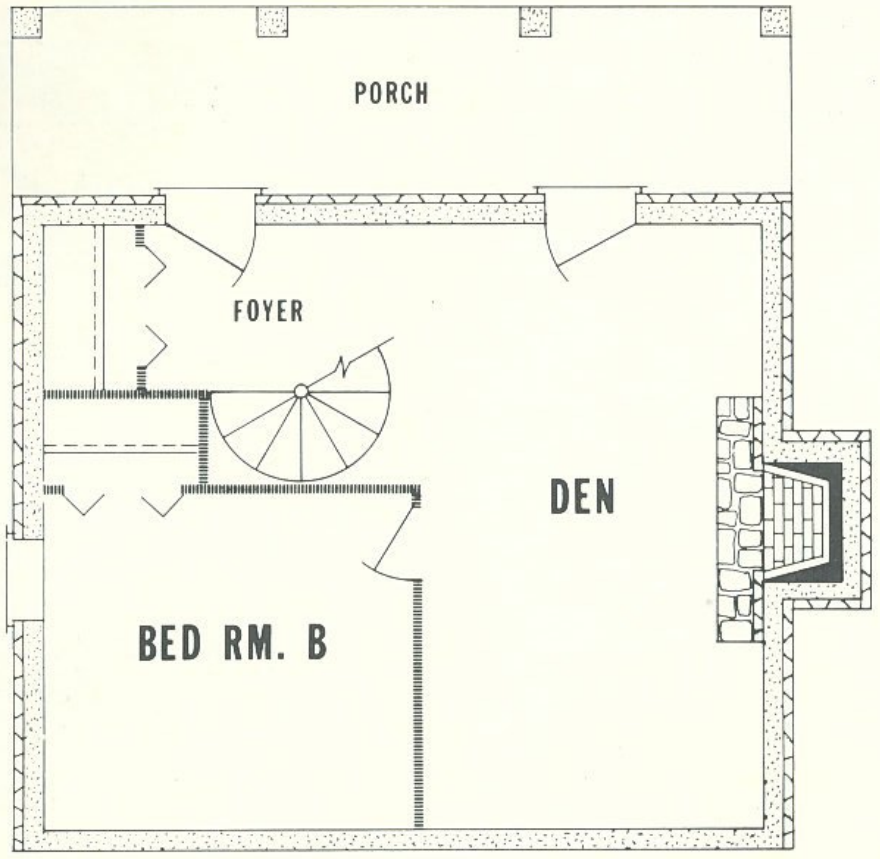
8 - 6x6 - 7′ Porch Posts
4 - 6x6 - 14′ Porch Beams
16 - 4x6 - 2′ Angle Brackets
4 - 4x6 - 6′ End Struts
28 - 2x4 - 10′ Porch Rafters

2 - 4x12 - 8′ Mantles
4 - Mantle Brackets
20 - 1x4 Misc. braces - roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

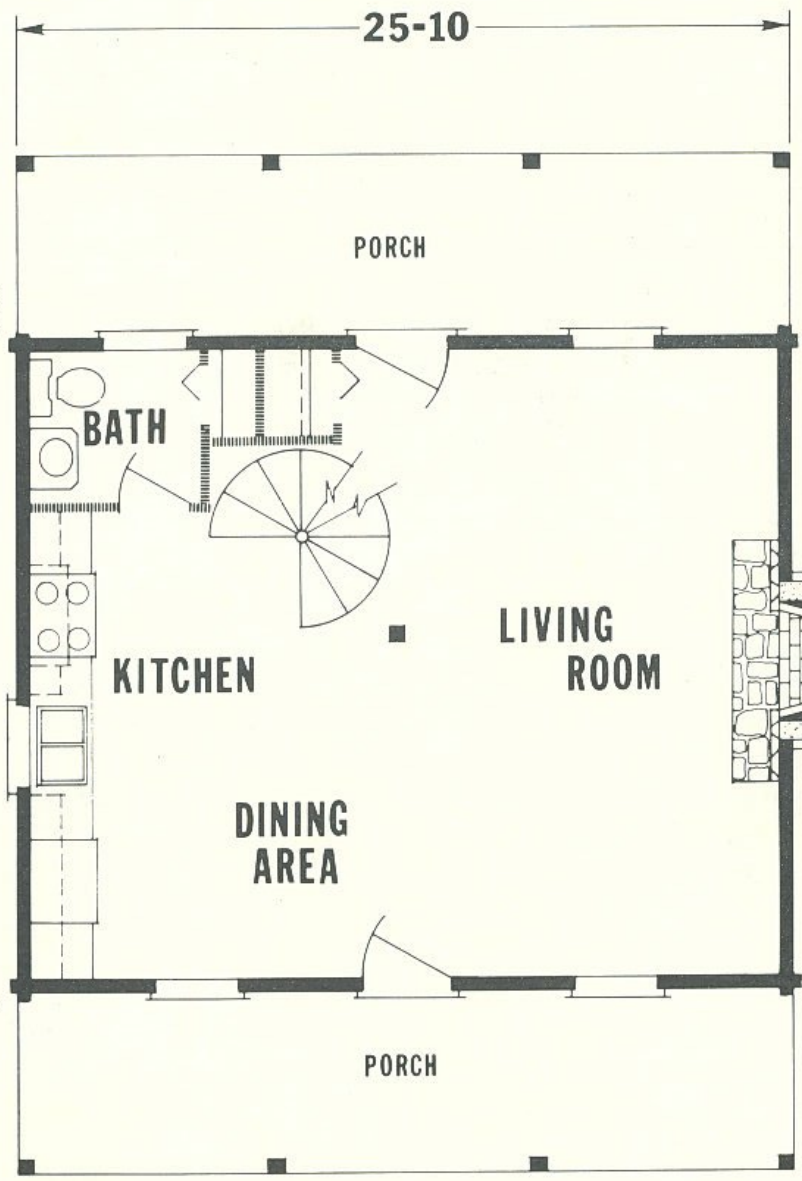
16 - ½x9″ Bolts w/washers and nuts
2 - ½x11″ Bolts w/washers & nuts



SECOND FLOOR PLAN

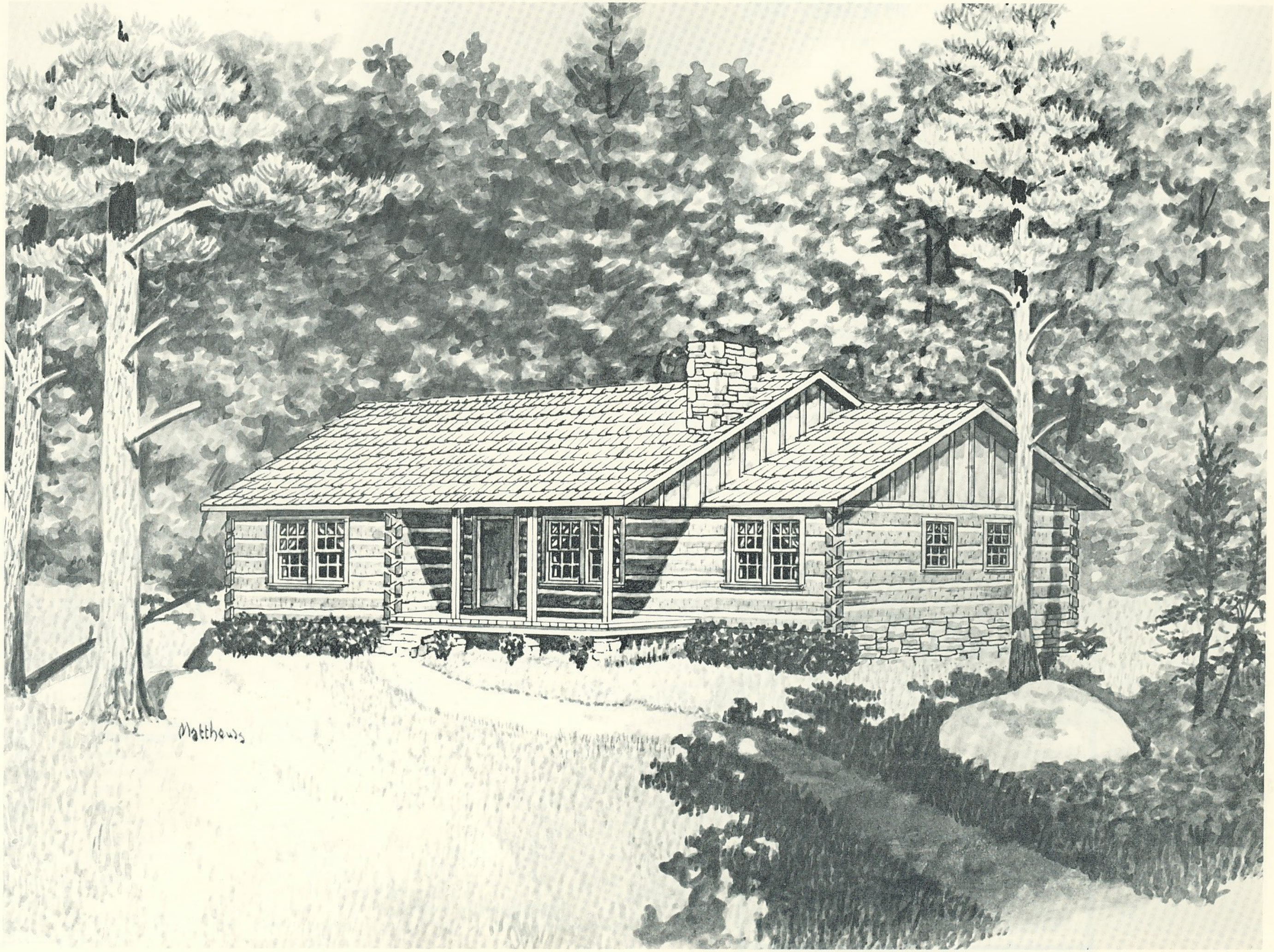


BASEMENT PLAN



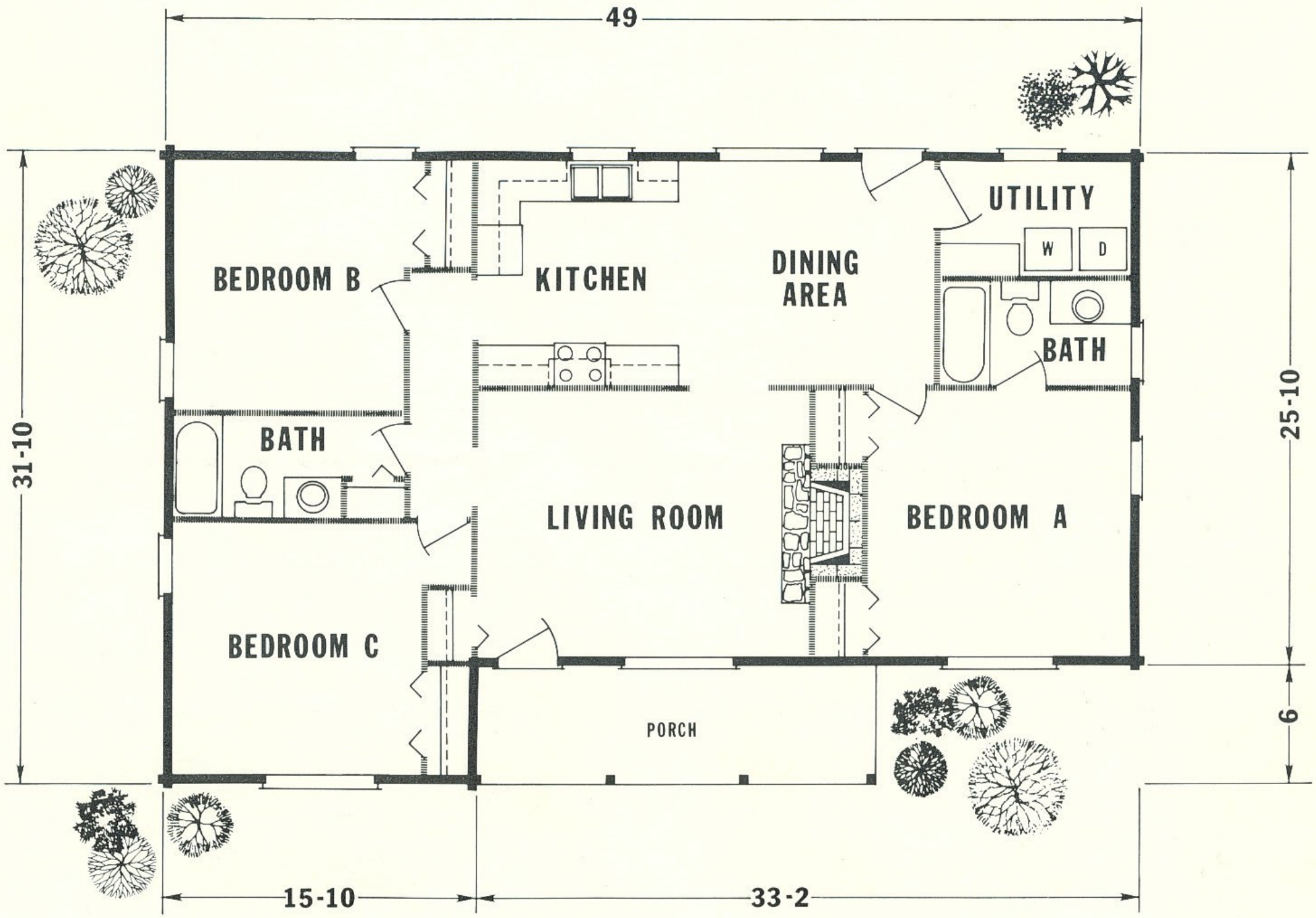
FIRST FLOOR PLAN

CUMBERLAND



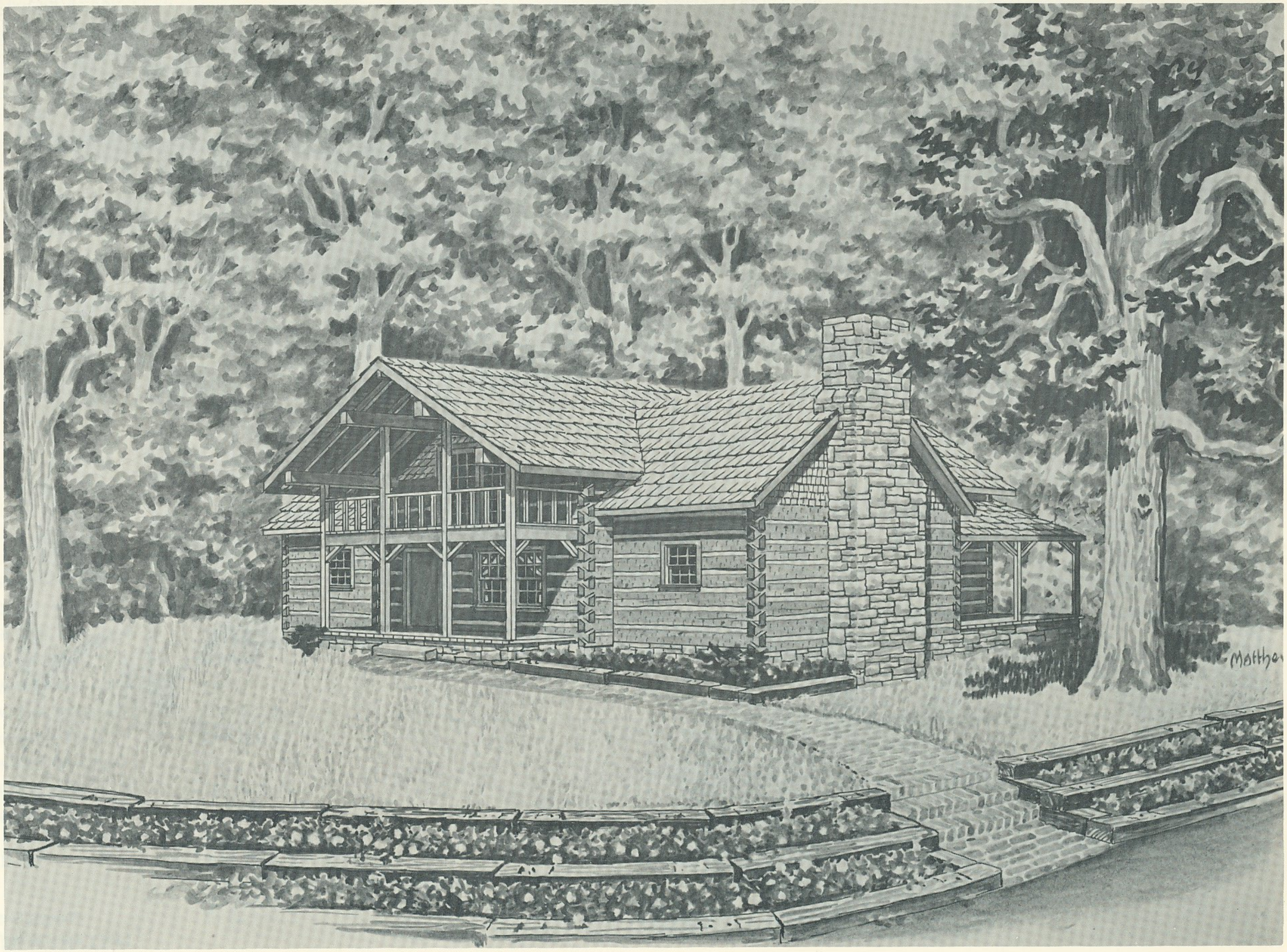
Materials List:

Log Building	25′ 10″ x 33′ 2″ 15′ 10″ x 31′ 10″ 6 courses, 1360 sq. ft., 120 sq. ft. porches
Trusses	19 ea. @ 32′ 0″ (6/12 slope) 7– 8 ea. @ 26′ 0″ (6/12 slope)
6″ x 6″ posts	3 ea. @ 8′ 0″
6″ x 6″ beam	1 ea. @ 20′ 0″
4 x 6 angle bracket	6 ea.
4 x 6 end strut	1 ea. @ 6′ 0″
4″ x 10″ mantle	1 ea. @ 8′ 0″
Wood mantle brackets	2 ea.
1″ bracing	30 pieces
⅜″ x 12″ steel spikes	72 ea.
7″ steel spikes	10 ea.
½″ carriage bolts	2 ea. @ 13″



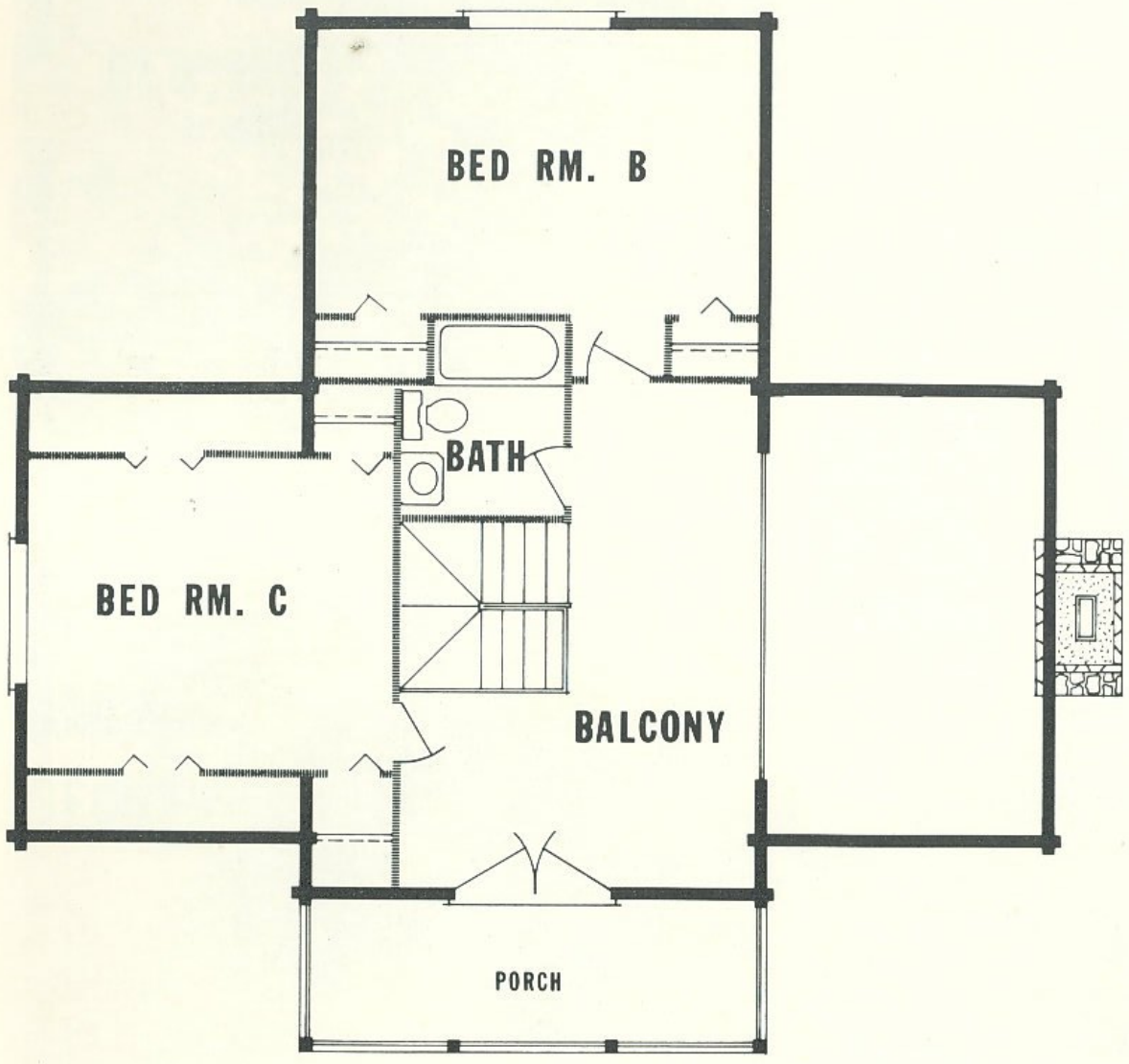
FLOOR PLAN

ELKMONT

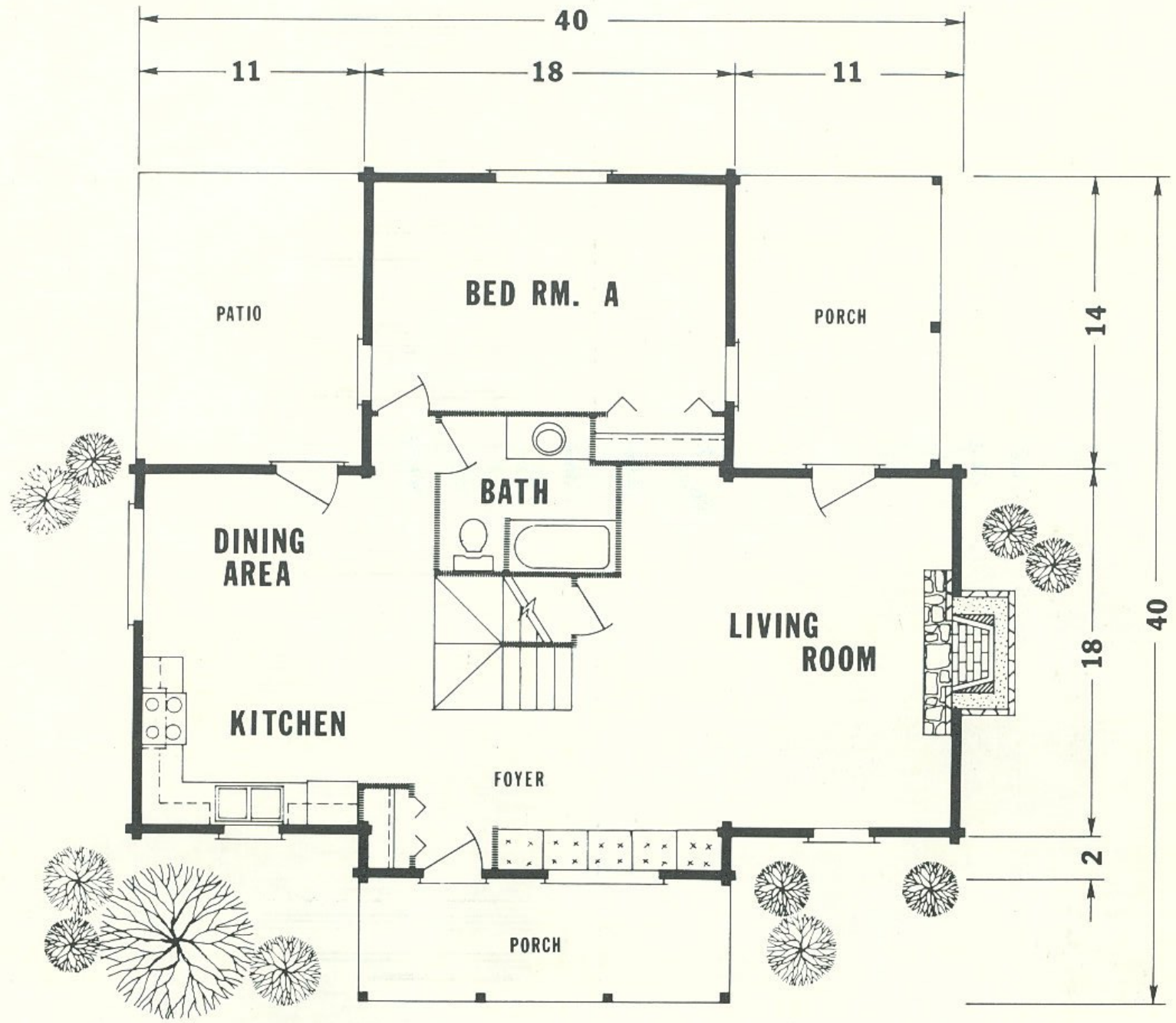


Materials List

Log Building	18′ 0″ x 34′ 0″ 10 courses 2 ea. 11′ 0″ x 18′ 0″ 8 courses 1800 sq. ft., 350 sq. ft. porches
4″ x 8″ beams	13 ea. @ 17′ 6″ 7 ea. @ 11′ 0″ 2 ea. @ 7′ 2″ (headers)
2″ x 8″ nailors	2 ea. @ 17′ 6″ 2 ea. @ 11′ 0″
Posts	2 ea. @ 6 x 6 x 8′ 0″ 3 ea. @ 6 x 6 x 7′ 0″ 2 ea. @ 8 x 8 x 18′ 0″ 2 ea. @ 8 x 8 x 14′ 0″ 2 ea. @ 12′ 0″ 1 ea. @ 10′ 0″ (temporary ridge support)
4″ x 8″ ridge beam	1 ea. @ 44′ 0″ (lapped) 1 ea. @ 20′ 0″ 1 ea. @ 22′ 0″
4″ x 6″ rafters	34 ea. @ 14′ 1¼″ 8 ea. @ 6′ 0″ 4 ea. @ 14′ 0″ 2 ea. @ 4′ 0″
6″ x 12″ purlens	2 ea. @ 8′ 6″
4″ x 6″ wind beams	3 ea. @ 12′ 0″ 4 ea. @ 6′ 0″
6″ x 12″ porch beams	1 ea. @ 14′ 0″ 3 ea. @ 6′ 0″
4 x 8 beam angle brackets	13 ea.
6″ x 12″ end beams	2 ea. @ 6′ 0″
2 x 6 porch rafters	8 ea. 12′ 0″ (rough)
4 x 10 mantle	1 ea. @ 8′ 0″
wood mantle brackets	2 ea.
1″ bracing	40 pieces
⅜″ x 12″ steel spikes	216 ea.
7″ steel spikes	44 ea.
½″ carriage bolts	28 ea. @ 9″ 2 ea. @ 11″

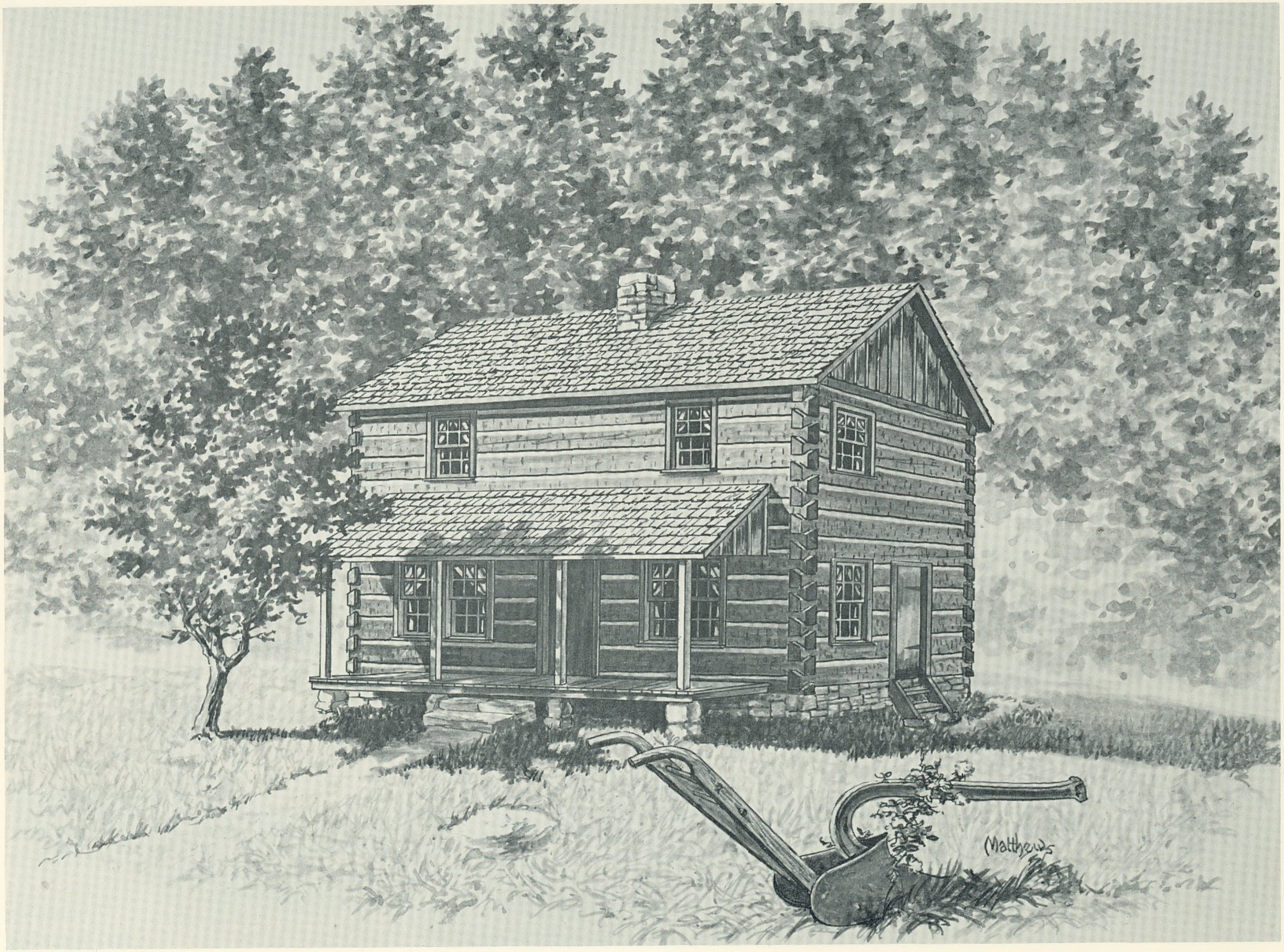


SECOND FLOOR PLAN



FIRST FLOOR PLAN

FRANCIS MARION



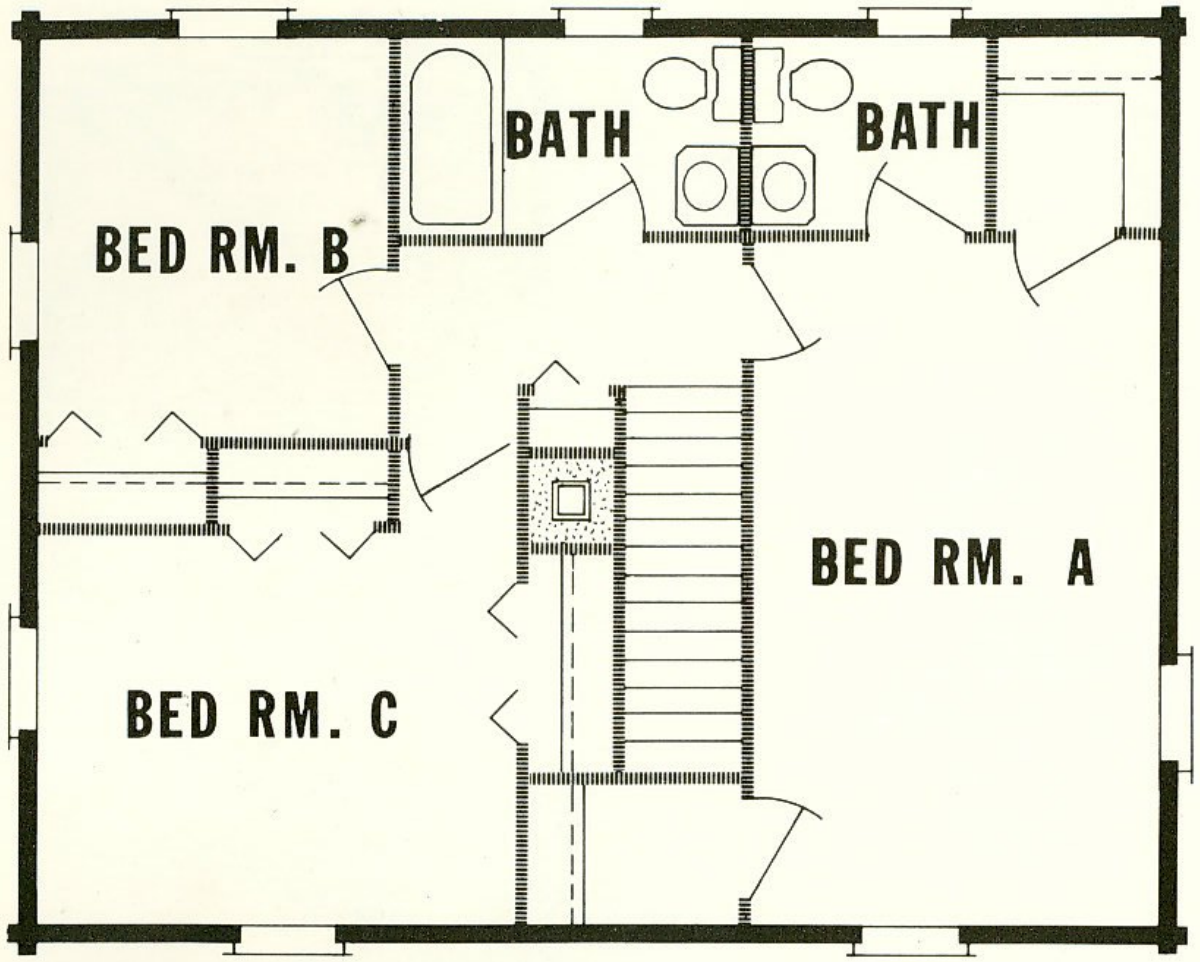
Materials List:

23′ 10″ x 29′ 10″ log building
11 courses of logs
1 Girder 30′ 2″ long

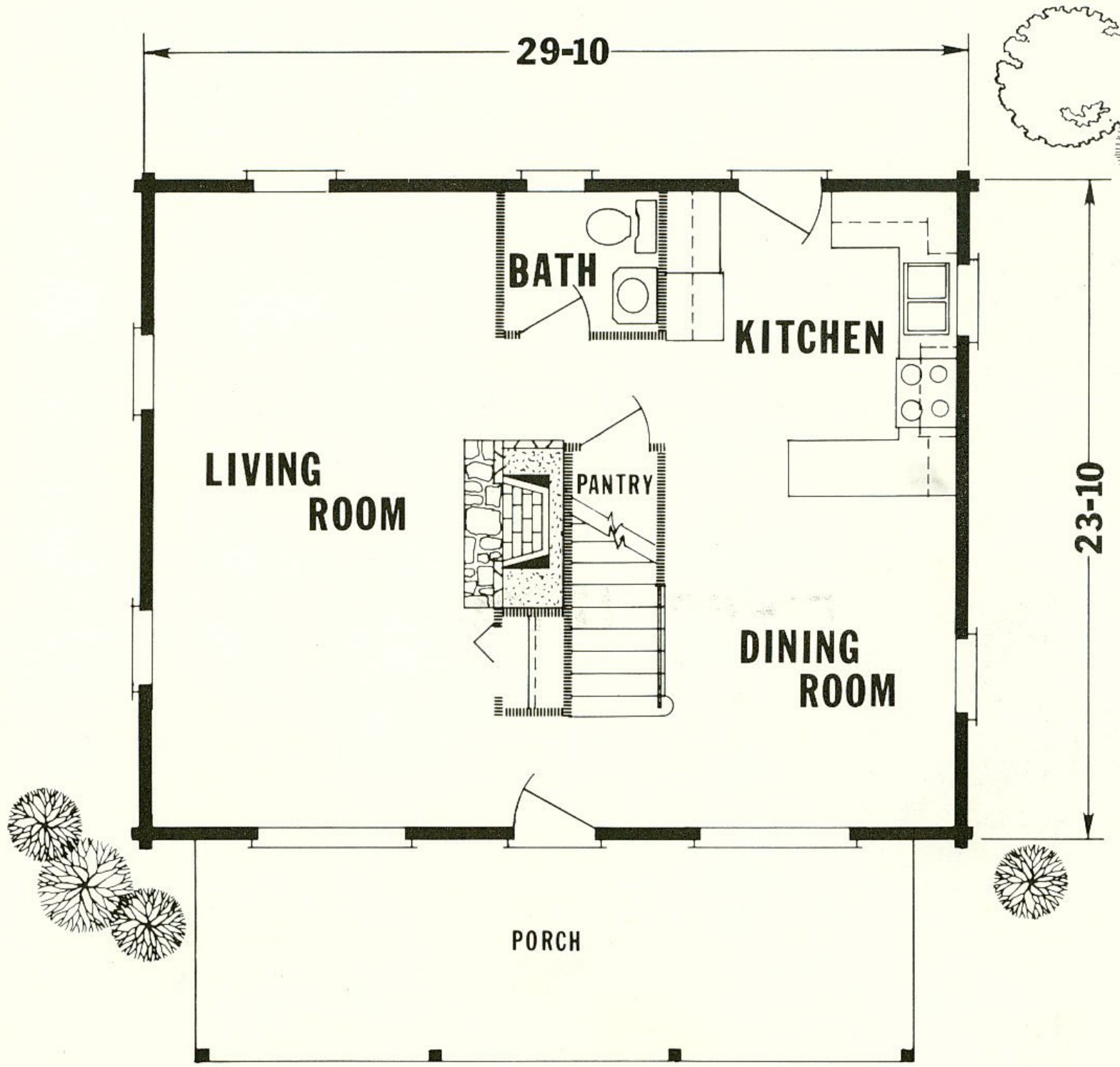
1 - 4x8 - 4′ 0″ Ceiling Beam
12 - 4x8 - 9′ 2″ Ceiling Beams
11 - 4x8 - 14′ 2″ Ceiling Beams
1 - 2x8 - 9′ 2″ Nailor
1 - 2x8 - 14′ 2″ Nailor
1 - 4x8 - 3′ 0″ Header Beam
1 - 4x10 - 34′ Ridge Beam (lapped)
18 - 4x8 - 15′ 7¼ Rafters

4 - 6x6 - 7′ Porch Posts
1 - 6x6 - 10′ Porch Beam
2 - 6x6 - 12′ Porch Beams
8 - 6x6 - 2′ Angle Brackets
2 - 4x6 - 8′ End Struts
14 - 2x4 - 10′ Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
36 - 1x4 Misc. bracing - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters



SECOND FLOOR PLAN



FIRST FLOOR PLAN

LAKESIDE



Materials List:

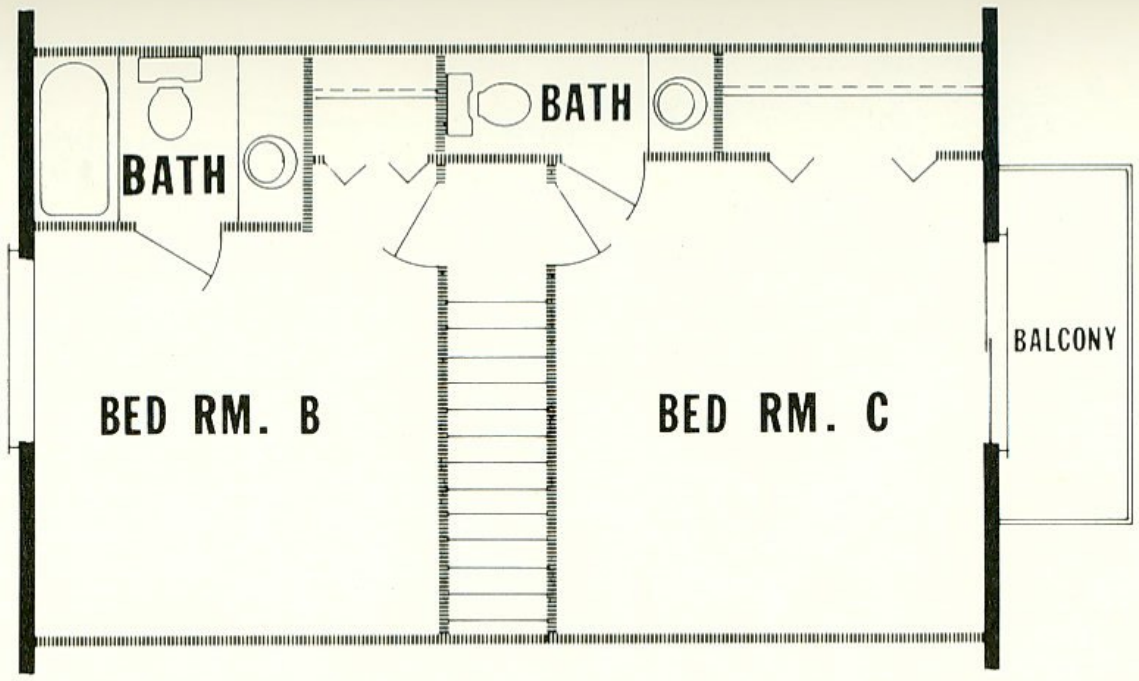
27′ 10″ x 29′ 10″ log building
7 courses of logs
1 Girder 28′ 2″ long

4 - 4x8 - 13′ 2″ Ceiling Beams
6 - 4x8 - 16′ 2″ Ceiling Beams
4 - 4x8 - 12′ 10″ Ceiling Beams
2 - 4x8 - 17′ 5″ Ceiling Beams
4 - 4x8 - 17′ 8″ Ceiling Beams
2 - 2x8 - 16′ 2″ Nailors
2 - 2x8 - 13′ 2″ Nailors
1 - 4x10 - 12′ 10″ Header Beam
1 - 2x12 - 12′ 10″ Header Beam

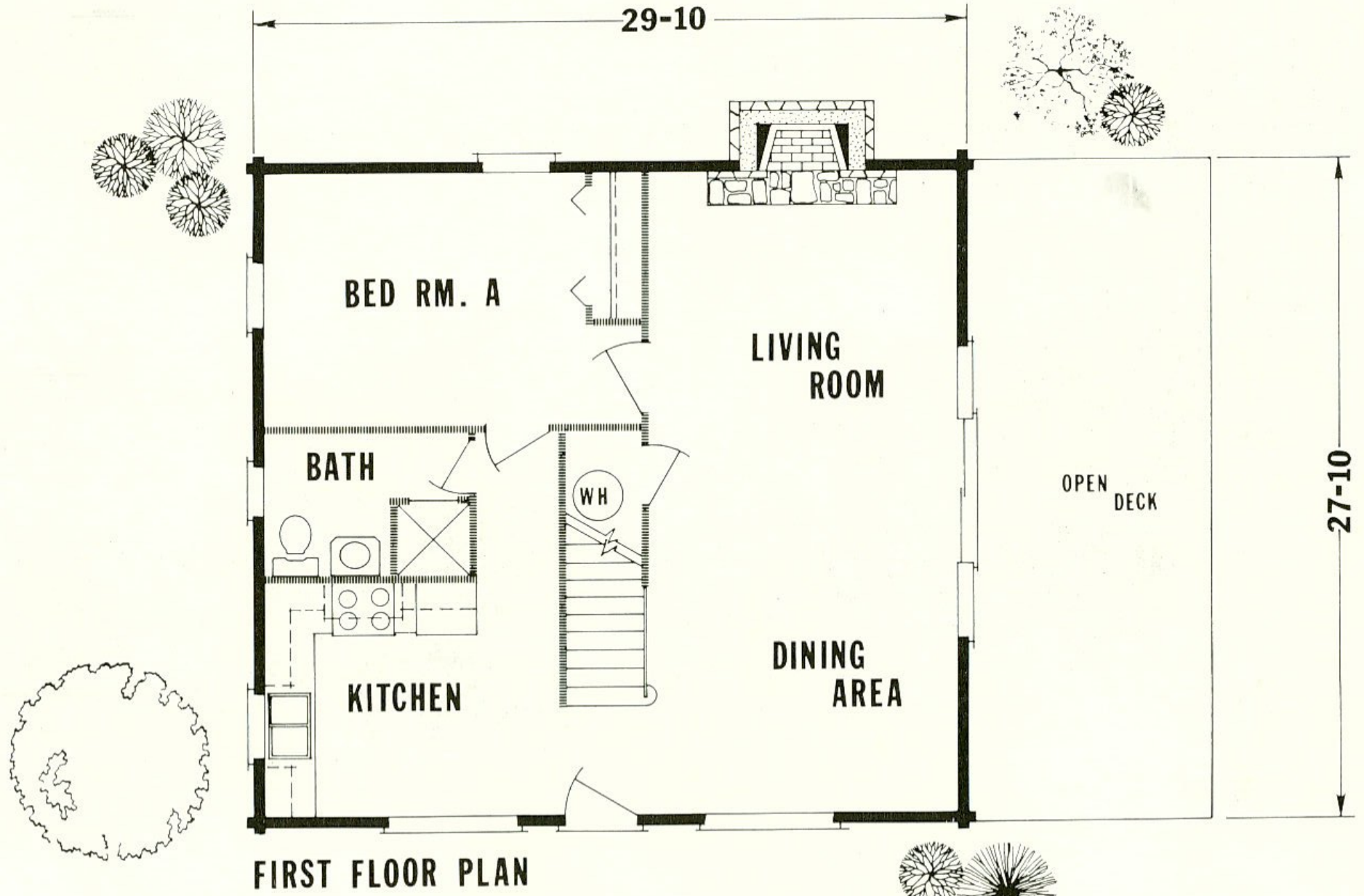
1 - 4x12 - 34′ Ridge Beam (lapped)
18 - 4x8 - 20′ 0″ Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
30 - 1x4 - Misc. bracing - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

2 - ½x11″ Bolts w/washers & nuts

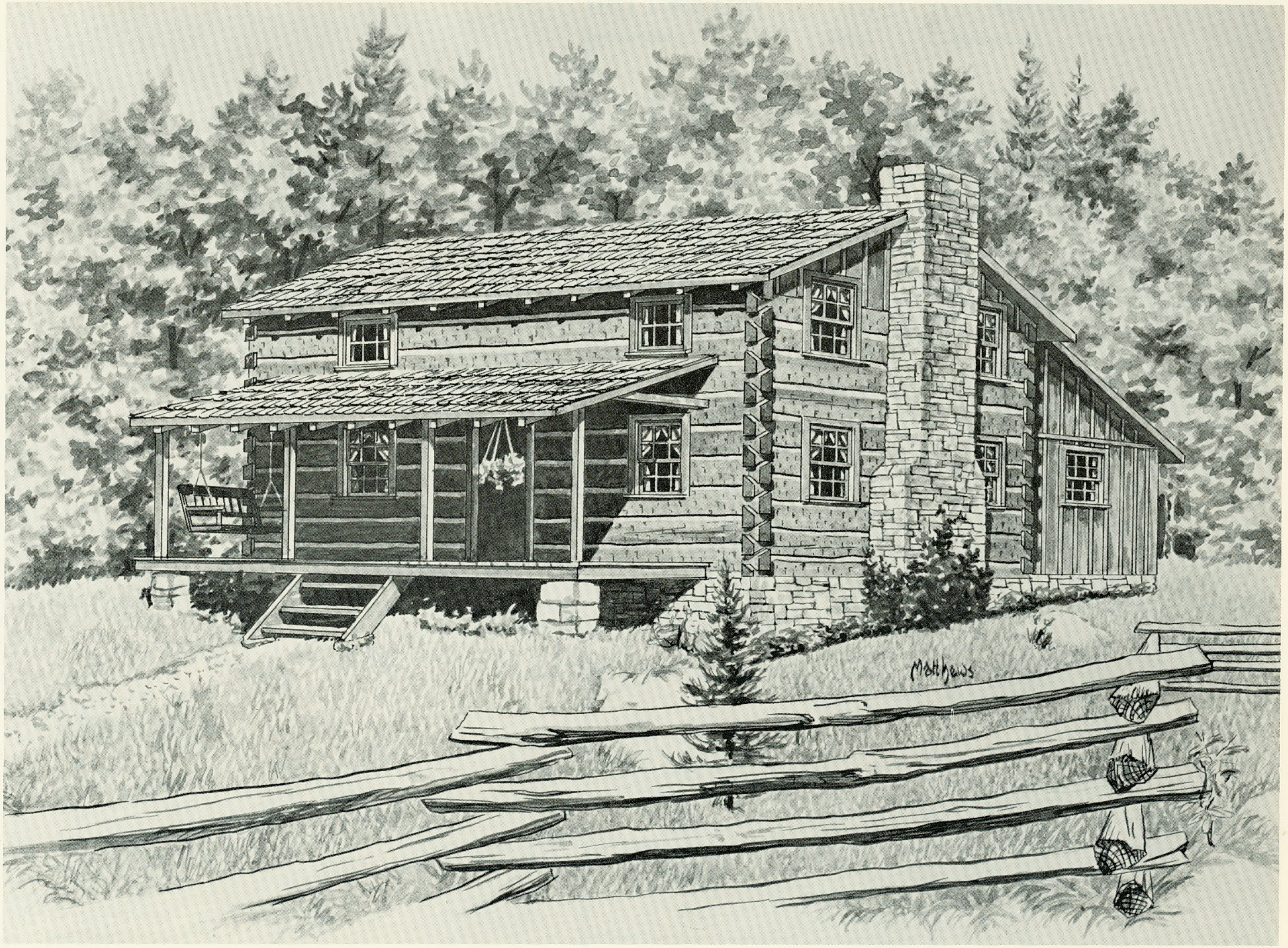


SECOND FLOOR PLAN



FIRST FLOOR PLAN

LINCOLN



Materials List:

19′ 10″ x 29′ 10″ log building
11 courses of logs

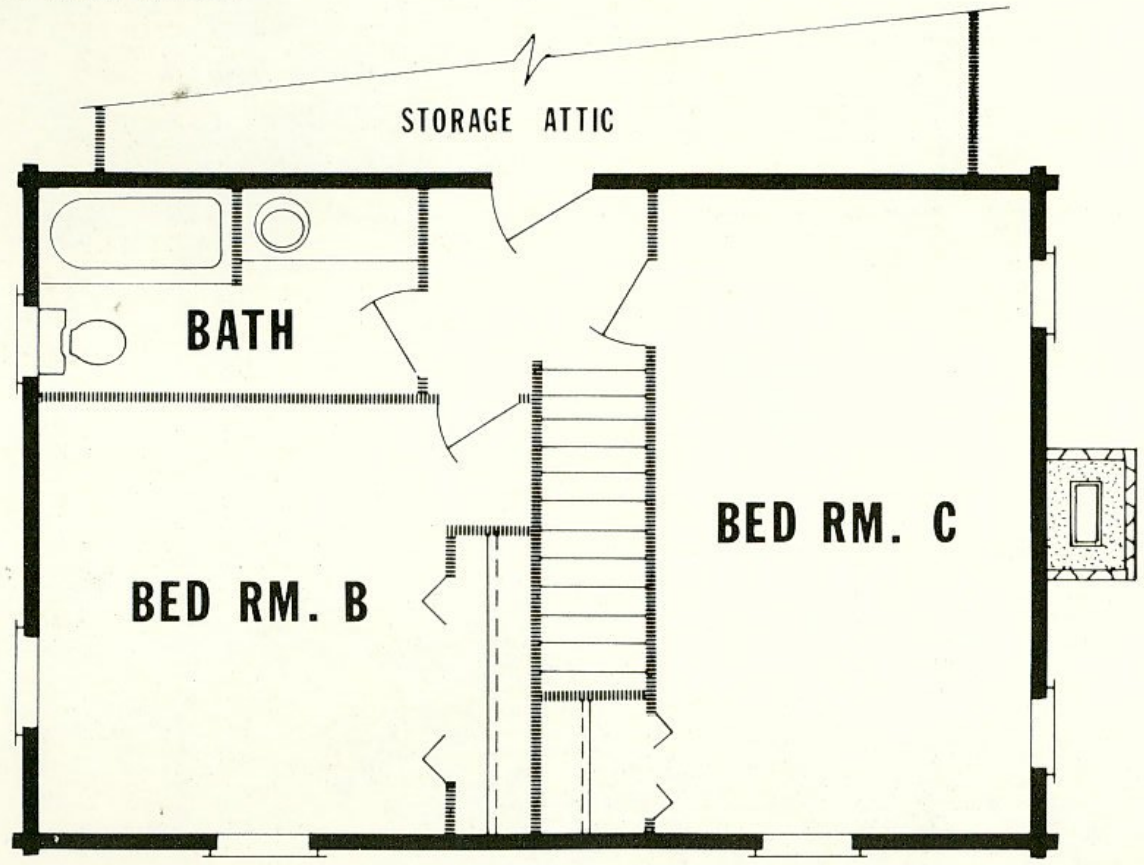
11 - 4x8 - 19′ 4″ Ceiling Beams
2 - 2x8 19′ 4″ Nailors
2 - 4x8 - 3′ Header Beams

1 - 4x10 - 34′ Ridge Beam (lapped)
18 - 4x8 - 14′ 0″ Rafters

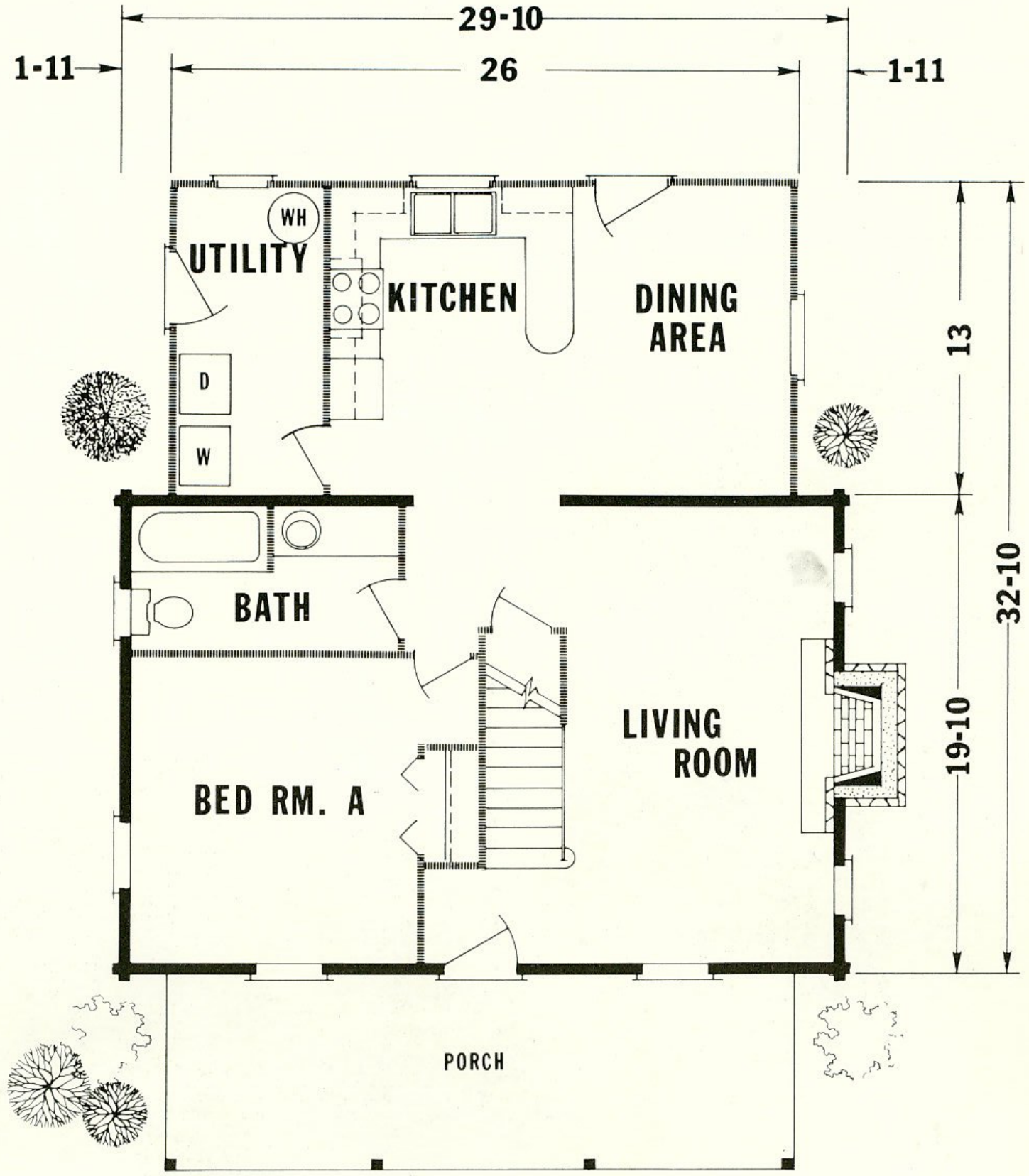
4 - 6x6 - 7′ Porch Posts
2 - 6x6 - 16′ Porch Beams
8 - 6x6 - 2′ Angle Brackets
2 - 4x6 - 8′ End Struts
14 - 2x4 - 10′ Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
30 - 1x4 Misc. bracing - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

2 - ½x11″ Bolts w/washers & nuts
Alignment rods where needed

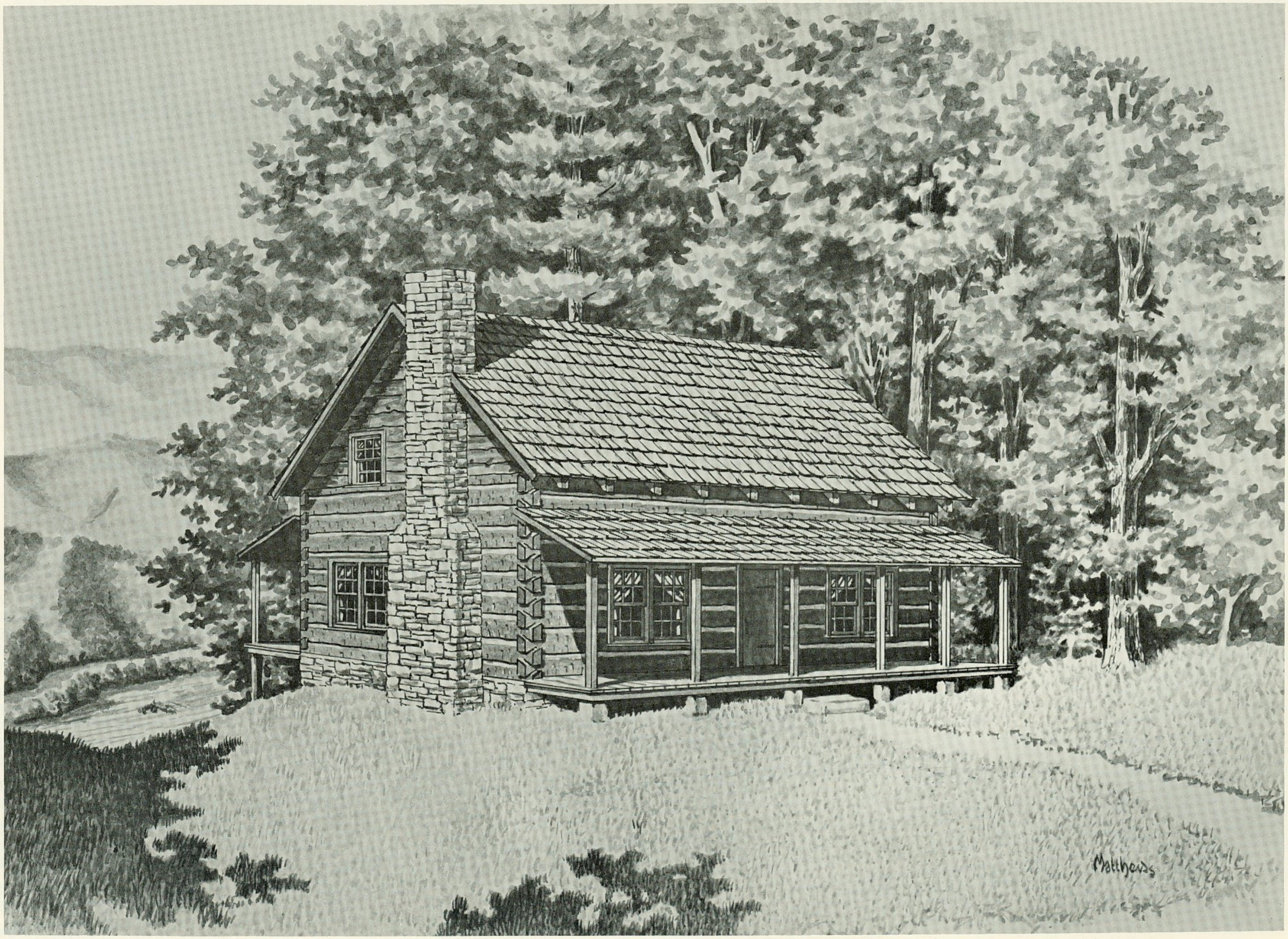


SECOND FLOOR PLAN



FIRST FLOOR PLAN

MACON



Materials List:

23′ 10″ x 31′ 10″ log building
8 courses of logs
1 Girder 32′ 2″ long

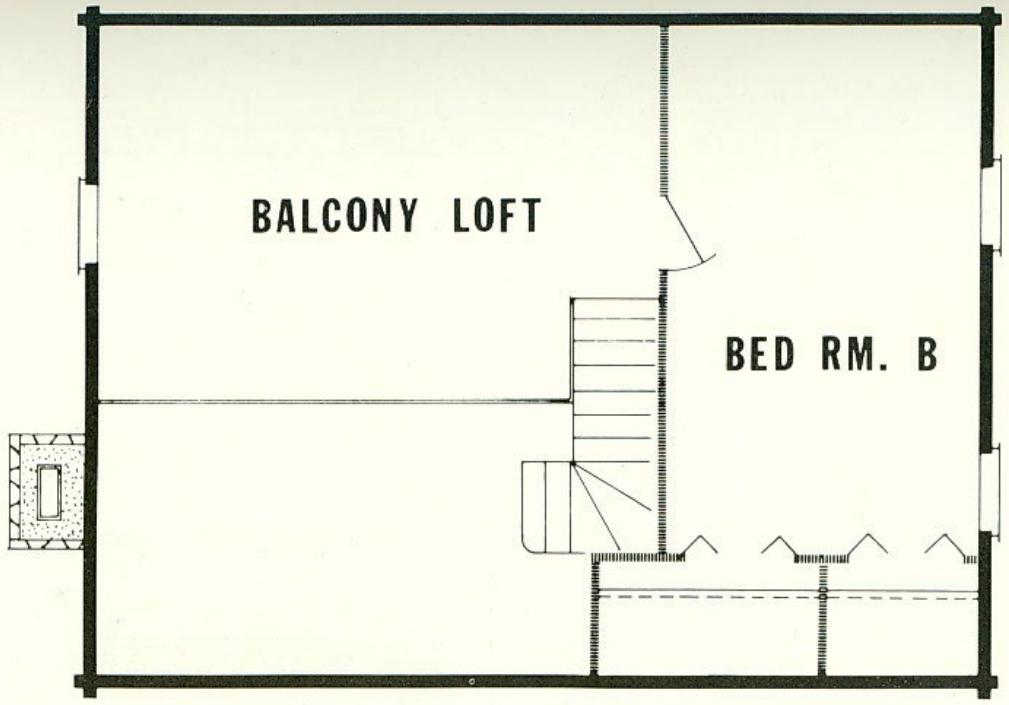
10 - 4x8 - 11′ 8″ Ceiling Beams
7 - 4x8 - 13′ 5″ Ceiling Beams
1 - 4x8 - 4′ 9″ Ceiling Beam
1 - 2x8 - 13′ 5″ Nailor
2 - 2x8 - 11′ 8″ Nailors
1 - 4x10 - 2′ 10″ Header Beam
2 - 2x12 - 17′ 6″ Header Beams
1 - 6x6 - 8′ Girder Post

1 - 4x10 - 36′ Ridge Beam (lapped)
18 - 4x8 - 15′ 11¼″ Rafters
4 - 4x8 - 12′ - Wind Beams

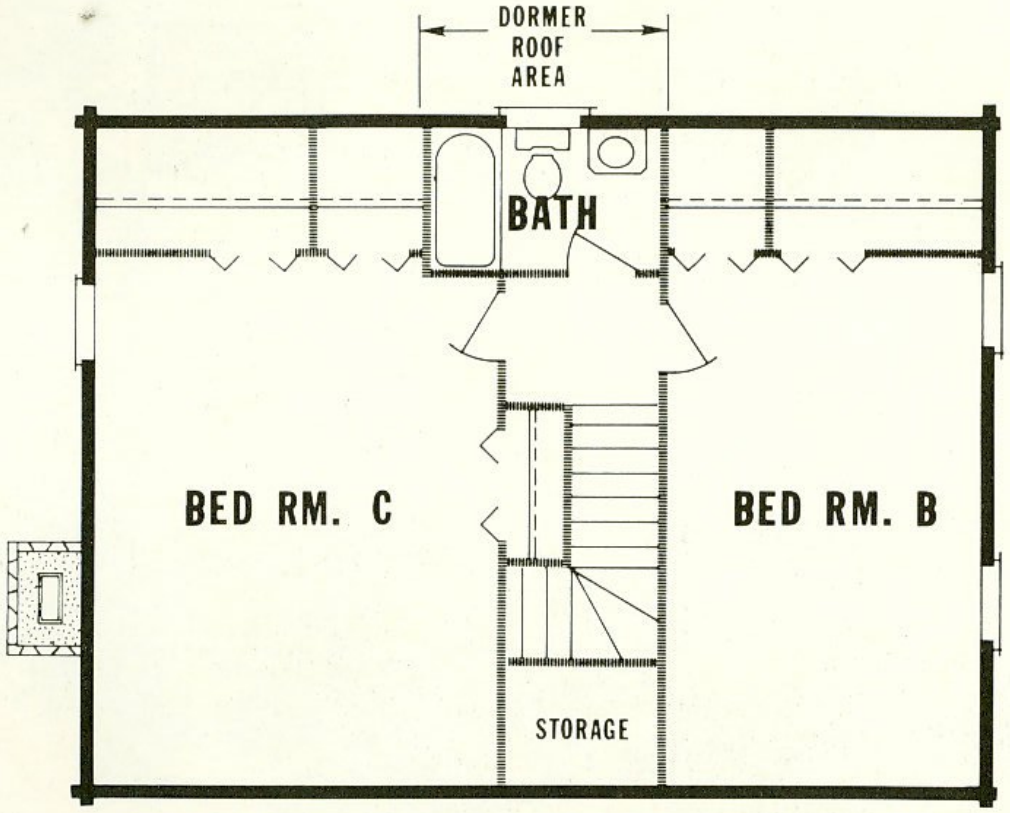
9 - 6x6 - 7′ Porch Posts
3 - 6x6 - 12′ Porch Beams
1 - 6x6 - 18′ Porch Beam
18 - 4x6 - 2′ Angle Brackets
4 - 4x6 - 8′ End Struts
9 - 4x6 - 8′ Porch Rafters
10 - 4x6 - 10′ Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
60 - 1x4 - Misc. braces - Roughsawn, random lengths
12″ spike nails for every dovetail
7″ nails for sills and rafters

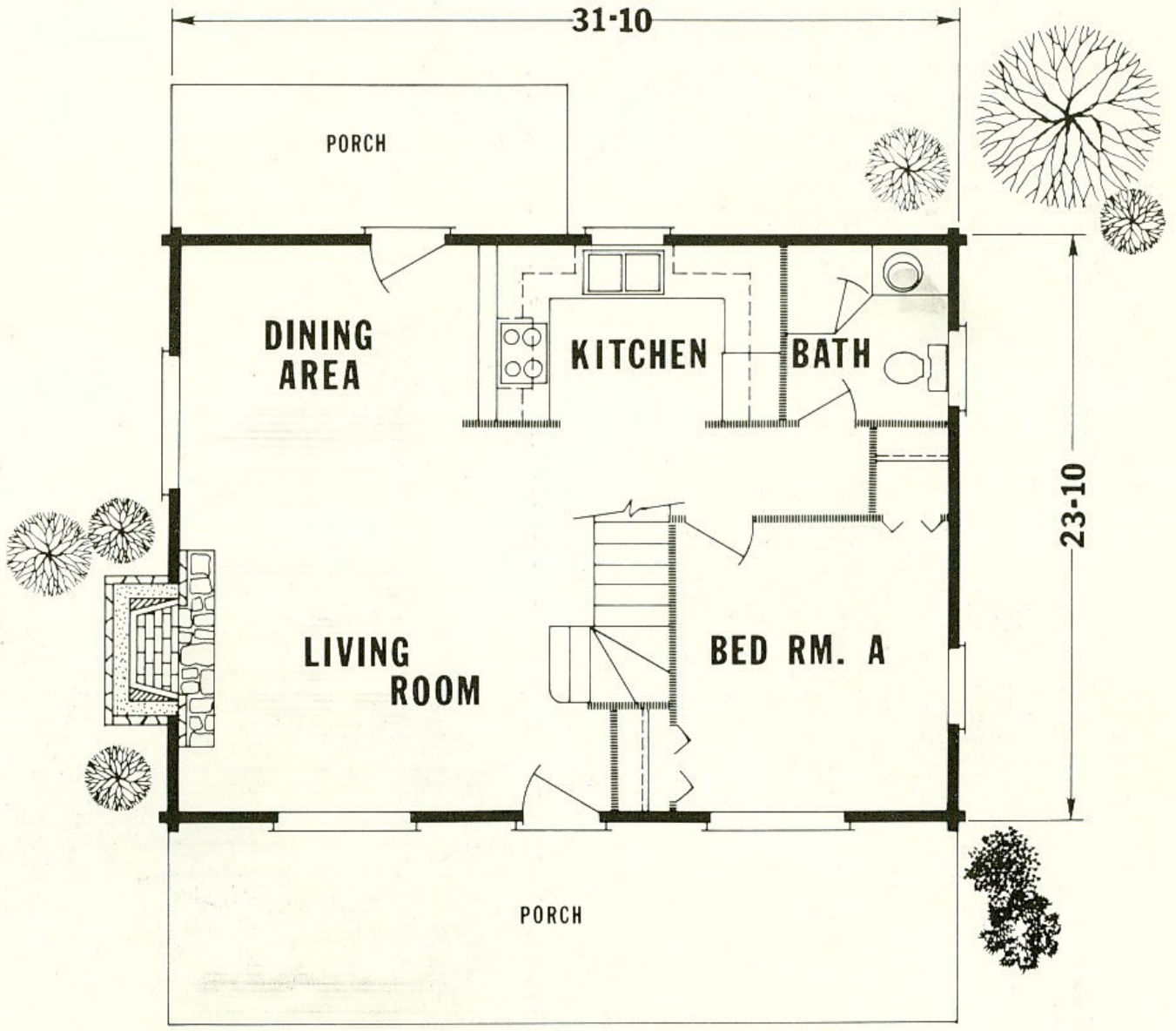
2 - ½x11″ Bolts w/washers and nuts



SECOND FLOOR PLAN

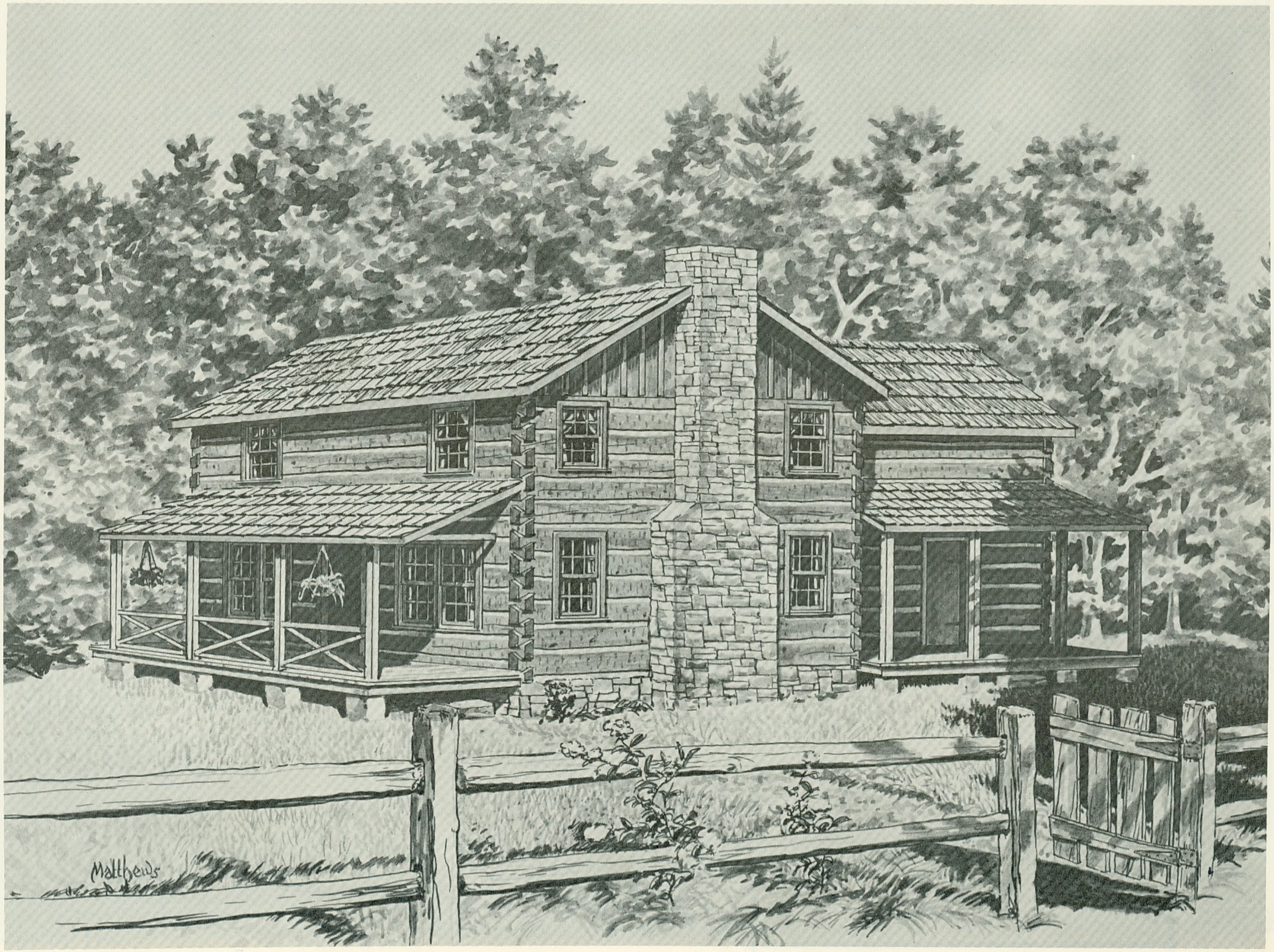


ALTERNATE SECOND FLOOR PLAN



FIRST FLOOR PLAN

OLD HICKORY



Materials List:

23′ 10″ x 29′ 10″ + 18′ 0″ x 23′ 0″ log building
11 courses of logs

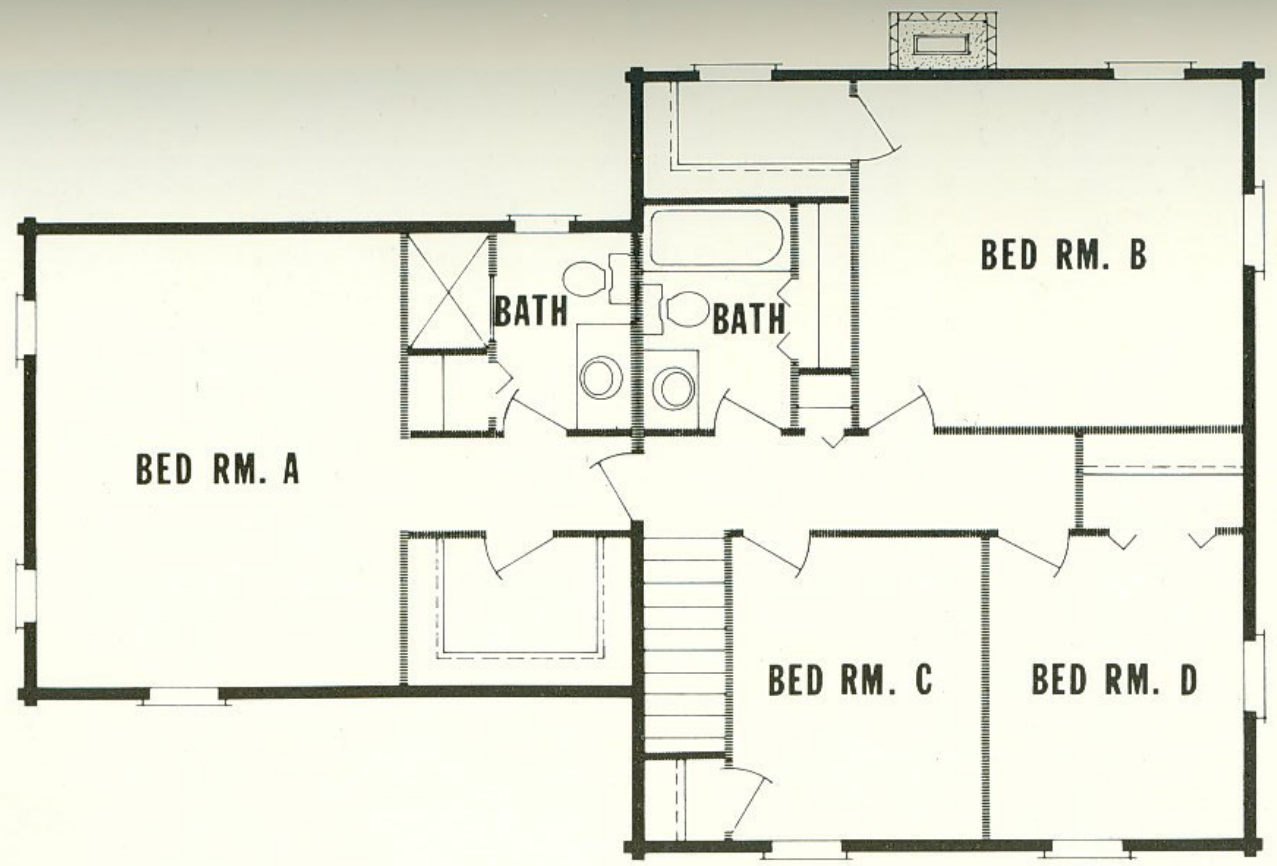
1 Girder 30′ 2″ long
1 Girder 18′ 4″ long

19 - 4x8 - 11′ 8″ Ceiling Beams
14 - 4x8 - 11′ x 6″ Ceiling Beams
3 - 4x8 - 8′ 5″ Ceiling Beams
8 - 2x8 - 11′ 8′ Nailors
1 - 4x12 - 12′ 9″ Header Beams
1 - 6x6 - 8′ Girder Post

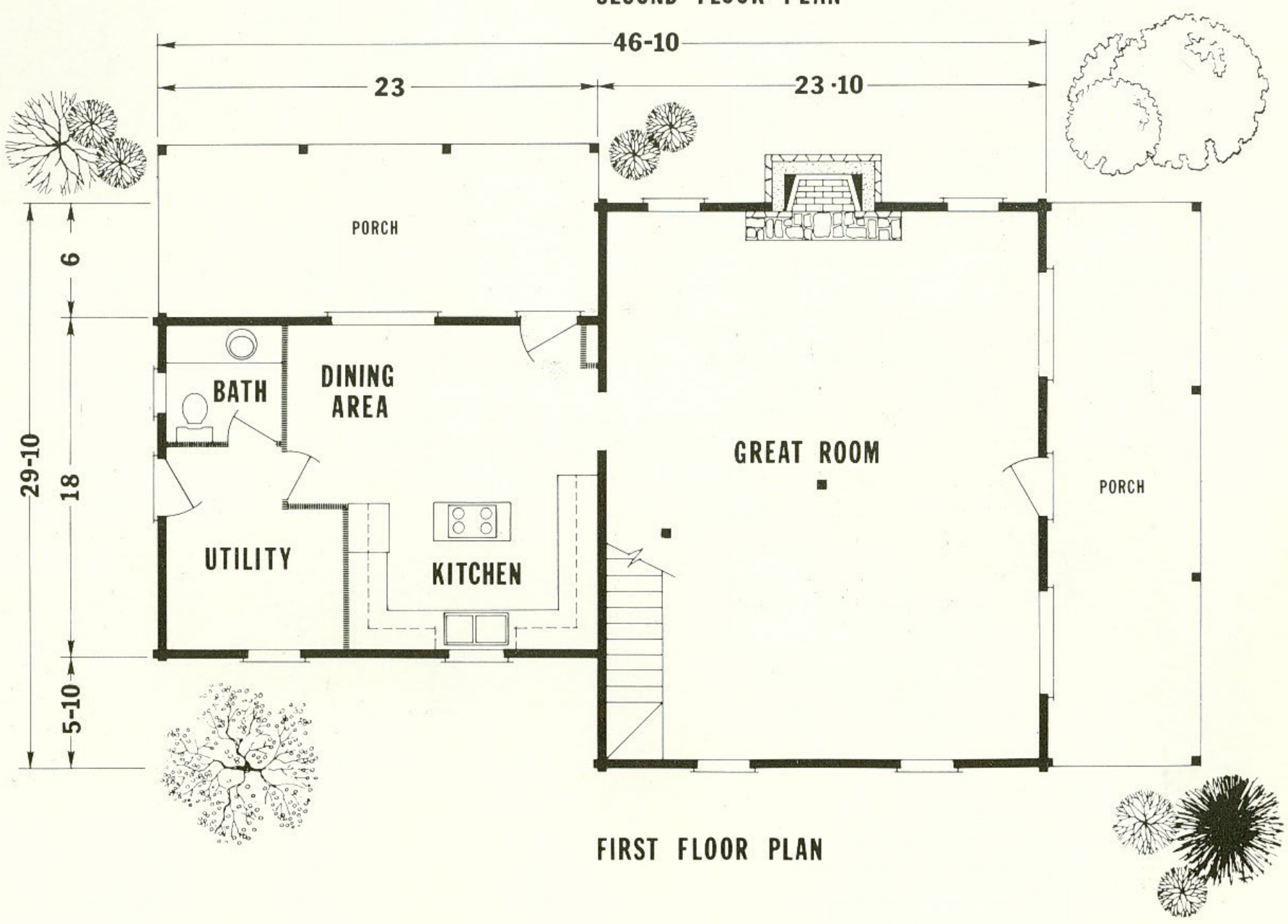
1 - 4x10 - 34′ Ridge Beam (lapped)
1 - 4x10 - 32′ Ridge Beam (lapped)
15 - 4x8 - 15′ 7″ Rafters
2 - 4x8 - 8′ 0″ Rafters
1 - 4x8 - 4′ 0″ Rafter
14 - 4x8 - 11′ 9½″ Rafters
2 - 4x8 - 8′ 10″ Rafters
2 - 4x8 - 10′ Wind Beam
4 - 4x8 - 12′ Wind Beam

8 - 6x6 - 7′ Porch Post
2 - 6x6 - 14′ Porch Beam
3 - 6x6 - 10′ Porch Beam
16 - 4x6 - 2′ Angle Bracket
2 - 4x6 - 8′ End Strut
2 - 4x6 - 10′ End Strut
16 - 2x4 - 10′ Rafters
13 - 2x6 - 12′ Rafters
4 - ½x11″ Bolts w/washers & nuts

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
60 - 1x4 Misc. braces random roughsawn length
12″ spike nails for every dovetail
7″ nails for sills and rafters

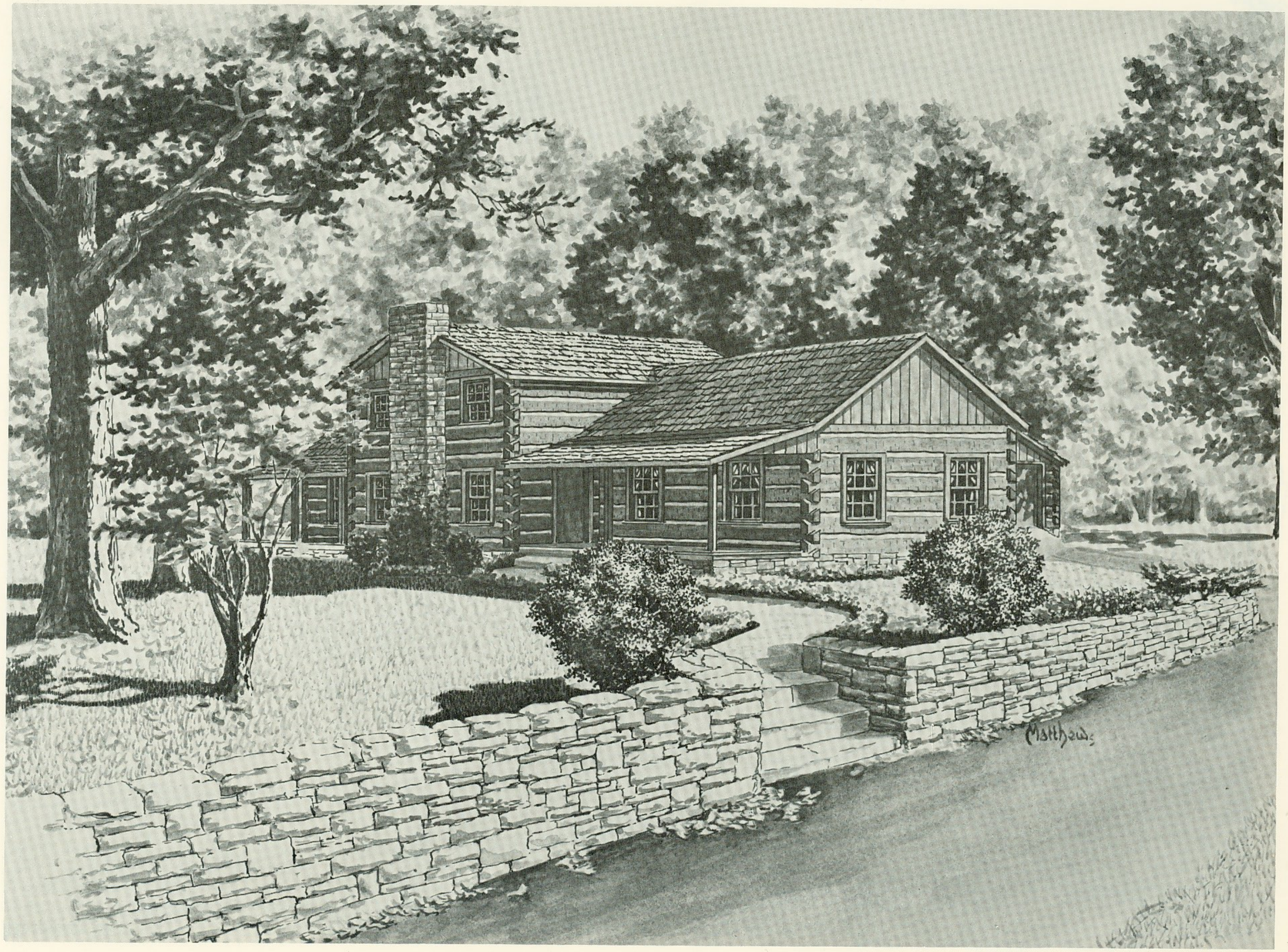


SECOND FLOOR PLAN



FIRST FLOOR PLAN

PATRIOT



Materials List:

18′ 0″ x 21′ 6″ + 23′ 10″ x 29′ 10″ + 18′ 0″ x 21′ 6″ + 21′ 10″ x 23′ 10″ (Garage)

6 & 11 & 6 (6 Garage) courses of logs
1 Girder 30′ 2″ long

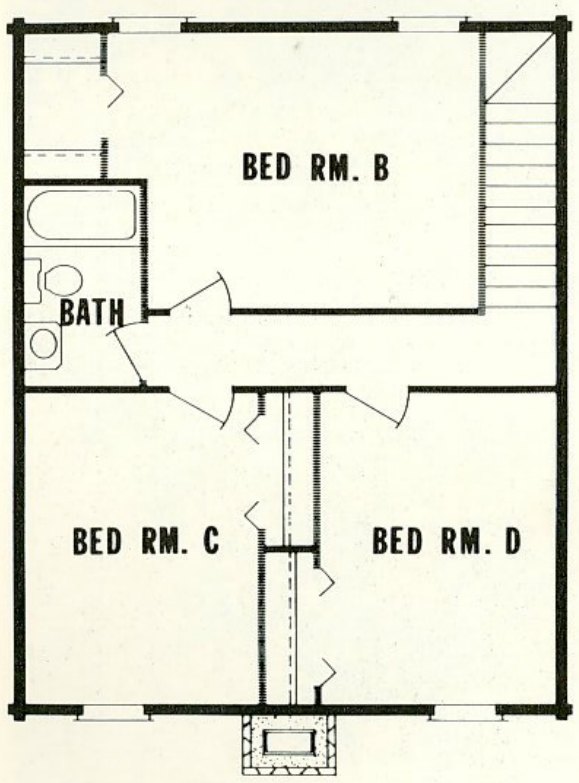
18 - 4x8 - 11′ 8″ Ceiling Beams
4 - 4x8 - 8′ 5″ Ceiling Beams
4 - 2x8 - 11′ 8″ Nailors
1 - 4x12 - 12′ 9″ Header Beam
3 - 6x6 - 8′ Girder Posts

1 - 4x10 - 32′ Ridge Beam (lapped)
2 - 4x10 - 24′ Ridge Beams (lapped)
1 - 4x10 - 12′ Ridge Beam (lapped)
18 - 4x8 - 14′ 10¾″ Rafters
12 - 4x8 - 10′ 2″ Rafters
12 - 4x8 - 11′ 10¼″ Rafters
4 - 4x8 - 12′ Wind Beams

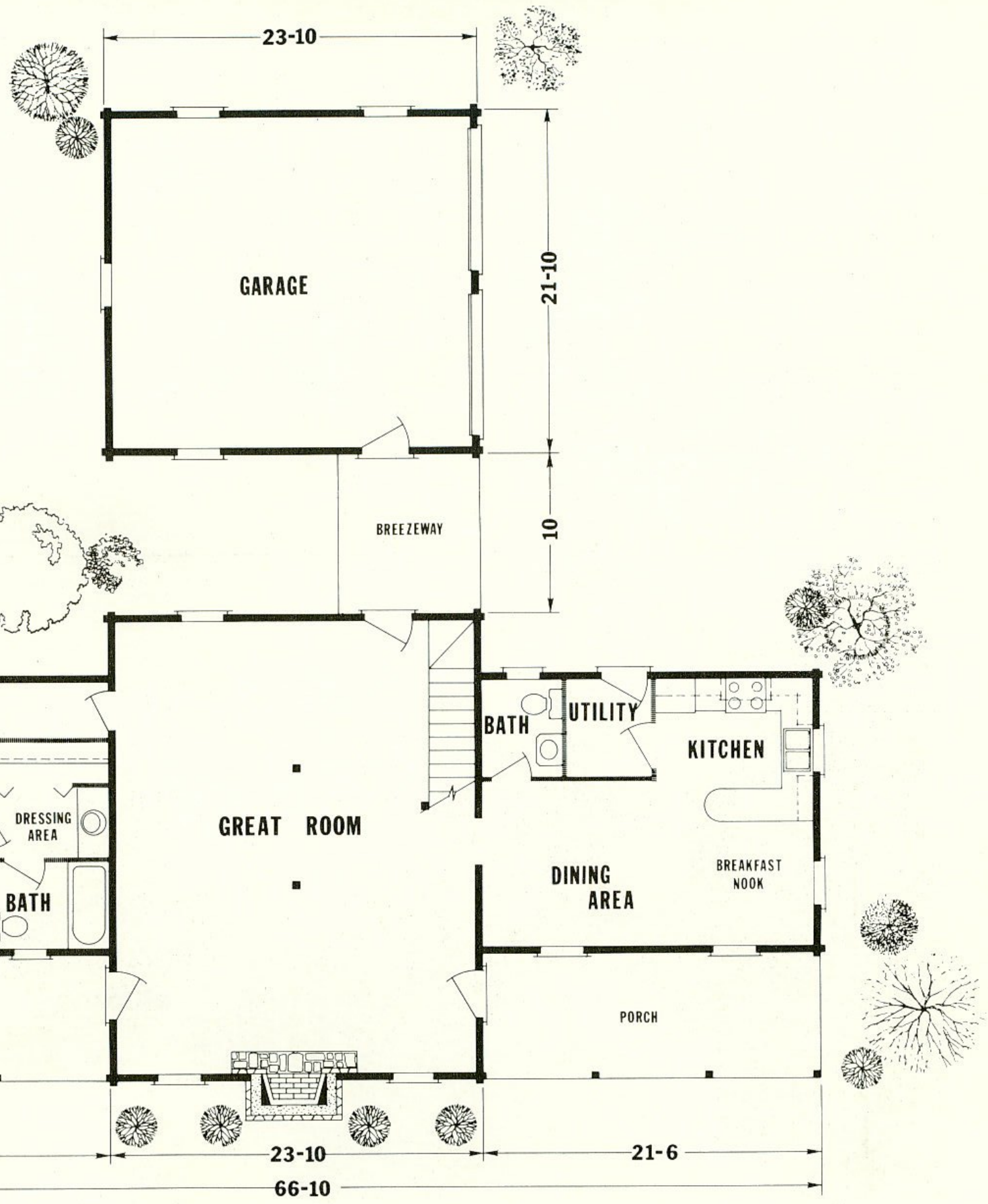
6 - 6x6 - 7′ Porch Posts
4 - 6x6 - 12′ Porch Beams
2 - 6x6 - 12′ (Breezeway) Porch Beams
14 - 4x6 - 2′ Angle Brackets
2 - 4x6 - 8′ End Struts
24 - 2x8 - 12′ Porch Rafters
12 - 2x8 - 6′ 0″ (Breezeway) Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
70 - 1x4 Misc. braces - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

20 - ½x9″ Bolts w/washers & nuts
8 - ½x11″ Bolts w/washers & nuts

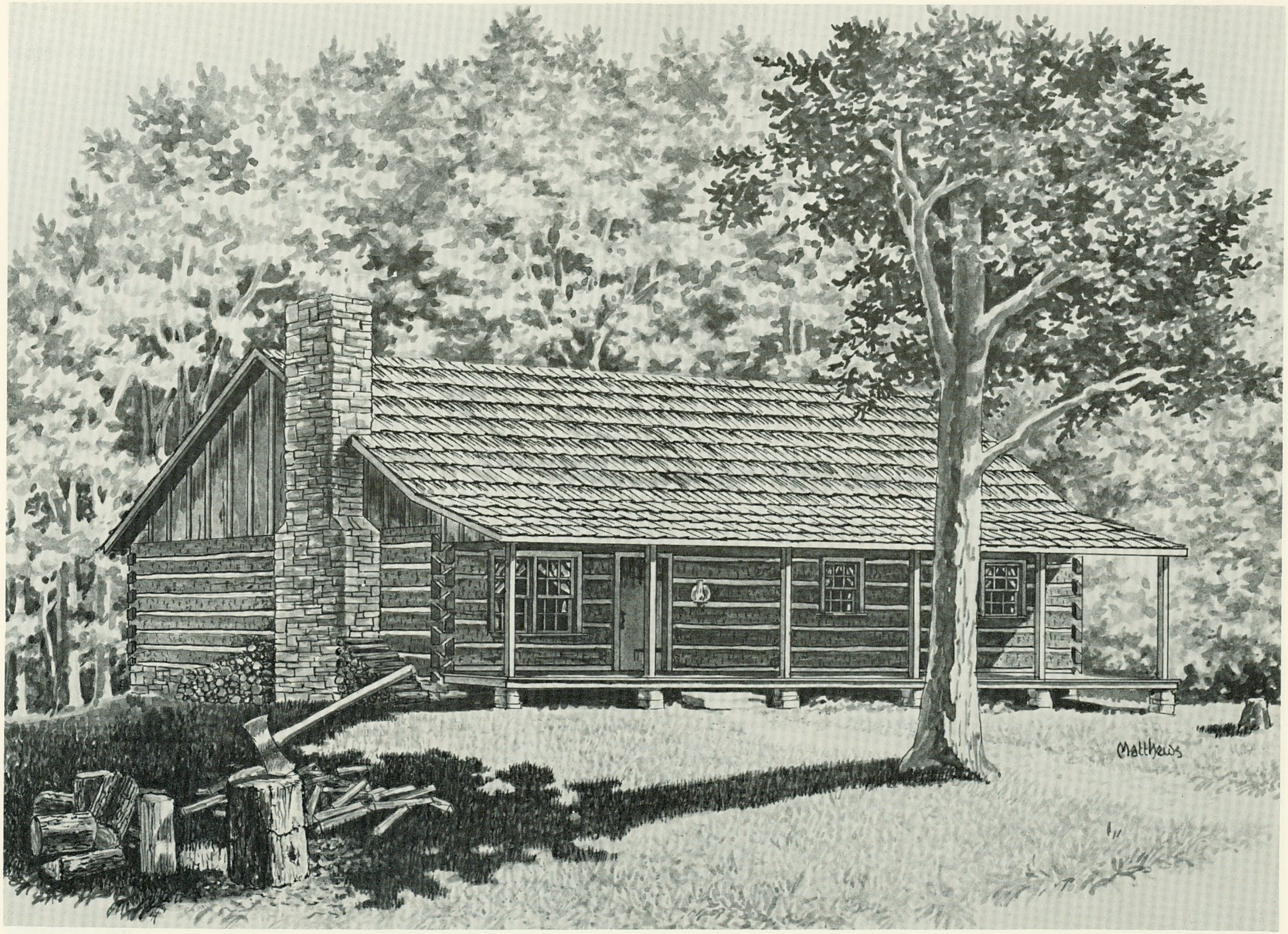


SECOND FLOOR PLAN



FIRST FLOOR PLAN

PIONEER



Materials List:

30 x 44 log building
7 courses of logs
1 Girder 44′ 4″ long (lapped)

9 - 4x8 - 12′ 3″ Ceiling Beams
9 - 4x8 - 17′ 3″ Ceiling Beams
8 - 4x8 - 17′ 6″ Ceiling Beams

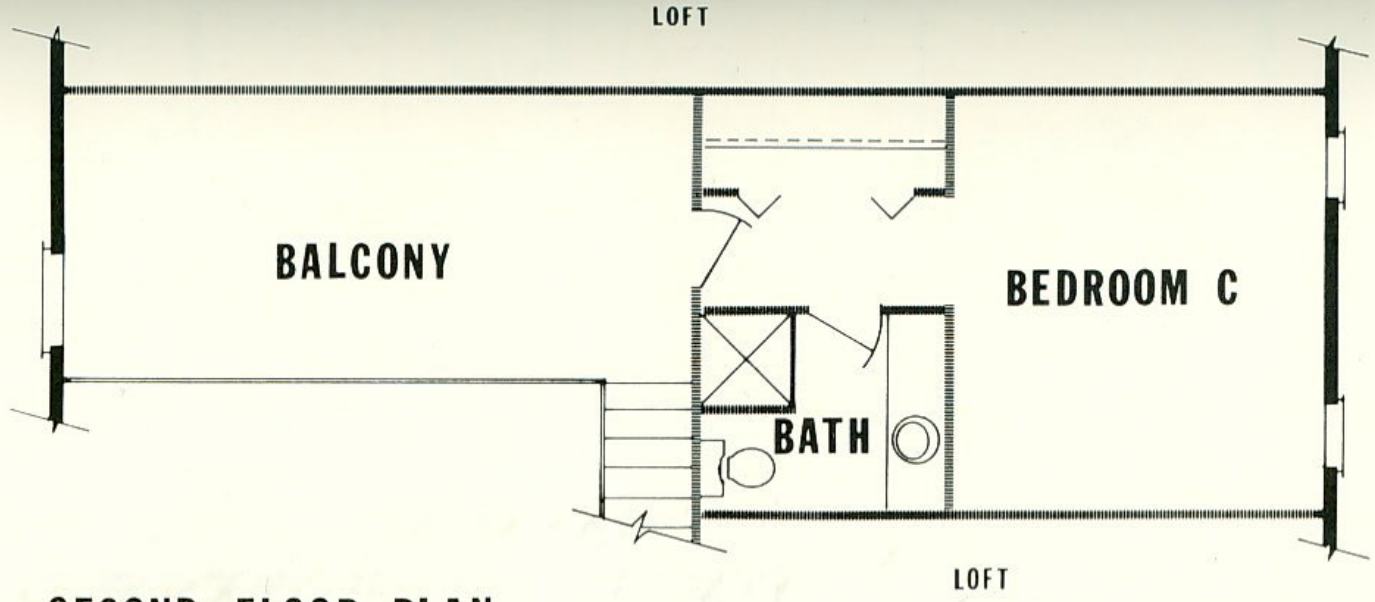
1 - 2x8 - 12′ 3″ Nailor
1 - 2x8 - 17′ 3″ Nailor
1 - 2x8 - 17′ 6″ Nailor

1 - 2x12 - 22′ Header Beam
1 - 4x10 - 48′ Ridge Beam (2 pieces)
12 - 4x8 - 18′ 2″ Rafters
12 - 4x8 - 20′ 0″ Rafters

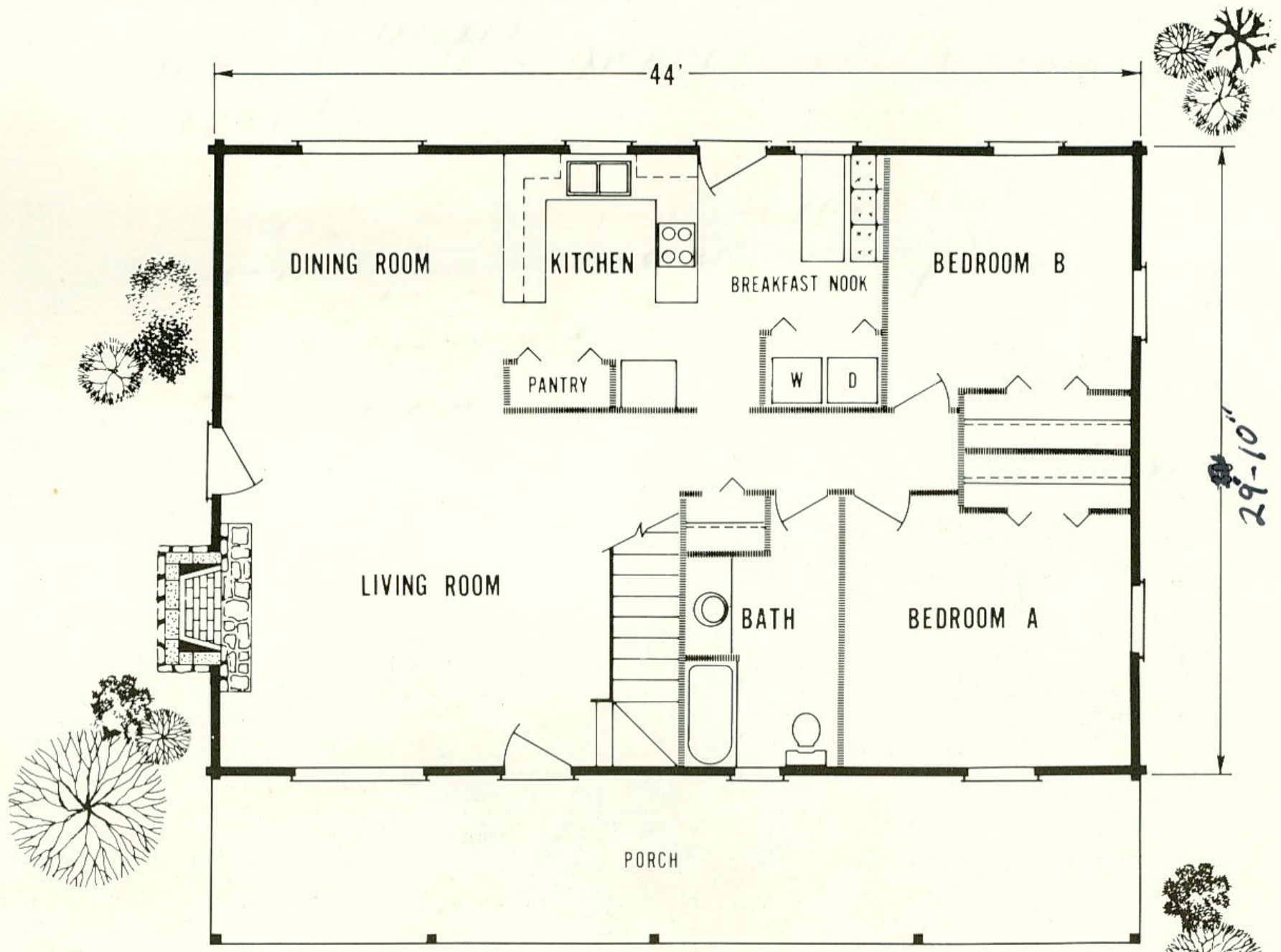
5 - 6x6 - 7′ Porch Posts
4 - 6x6 - 12′ Porch Beams
10 - 6x6 - 2′ Angle Brackets
2 - 4x6 - 8′ End Struts
23 - 2x6 - 10′ Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
12″ spike nails for every dovetail
7″ nails for sills and rafters
40 - 1x4 Roughsawn random length misc. bracing

4 - ½x11″ Bolts w/washers & nuts
10 - ½x13″ Bolts w/washers & nuts

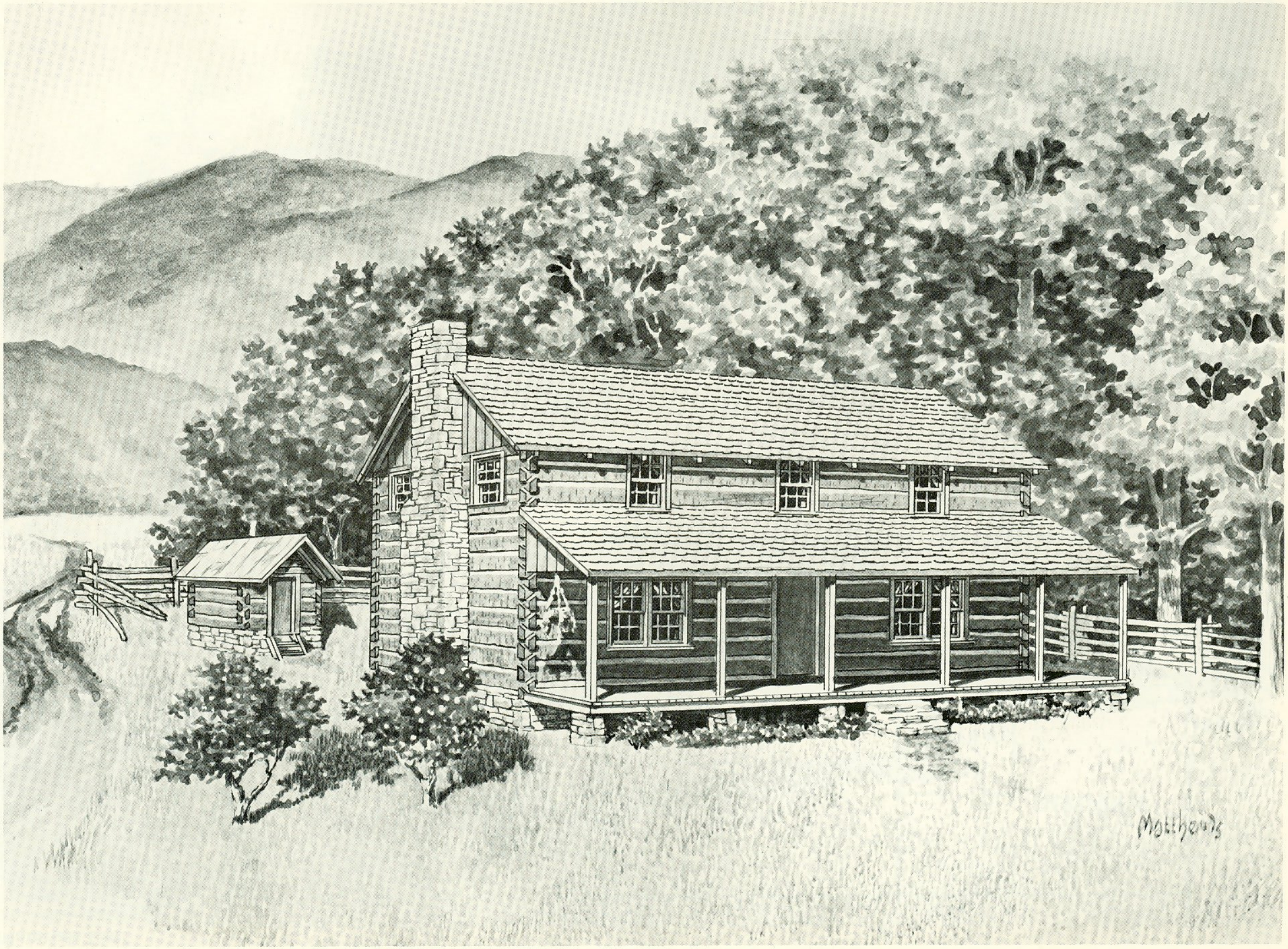


SECOND FLOOR PLAN



FIRST FLOOR PLAN

SHENANDOAH



Materials List:

23′ 10″ x 40′ log building
11 courses of logs
1 Girder 40′ 4″ long (lapped)

28 - 4x8 - 11′ 8″ Ceiling Beams
2 - 4x8 - 8′ 5″ Ceiling Beams
2 - 4x8 - 11′ 11″ Ceiling Beams

4 - 2x8 - 11′ 8″ Nailors

1 - 4x8 - 5′ 0″ Header Beam
1 - 4x8 - 2′ 2″ Header Beam

1 - 4x10 - 42′ Ridge Beam (lapped)
22 - 4x8 - 15′ 1¾″ Rafters

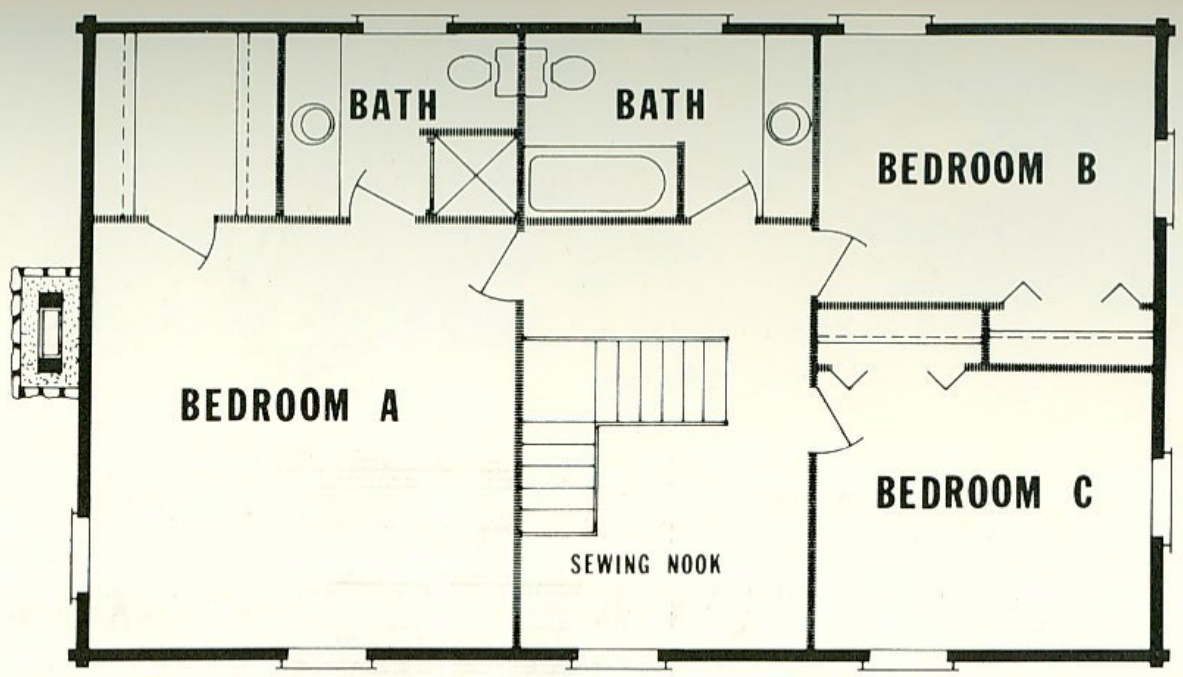
9 - 6x6 - 7′ Porch Posts

2 - 6x6 - 16′ Porch Beams
2 - 6x6 - 10′ Porch Beams
1 - 6x6 - 12′ Porch Beam

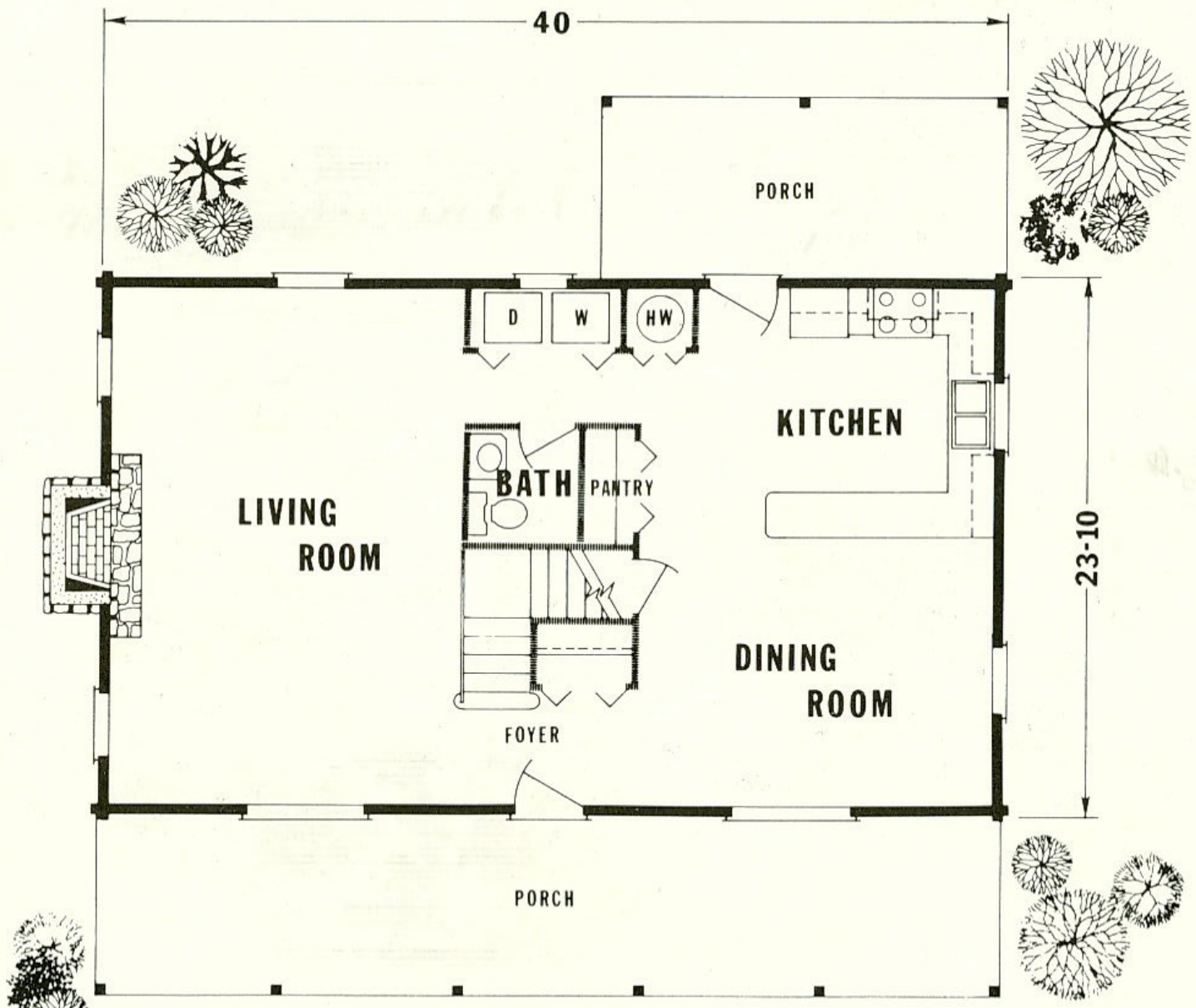
18 - 6x6 - 2′ Angle Brackets
4 - 4x6 - 8′ End Struts
31 - 2x4 - 10′ Poch Rafters

1 - 4 x 12 - 8′ Mantle
2 - Mantle Brackets
40 - 1x4 Misc. bracing - Rouhsawn, random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

2 - ½x11″ bolts w/washers & nuts
18 - ½x13″ bolts w/washers & nuts

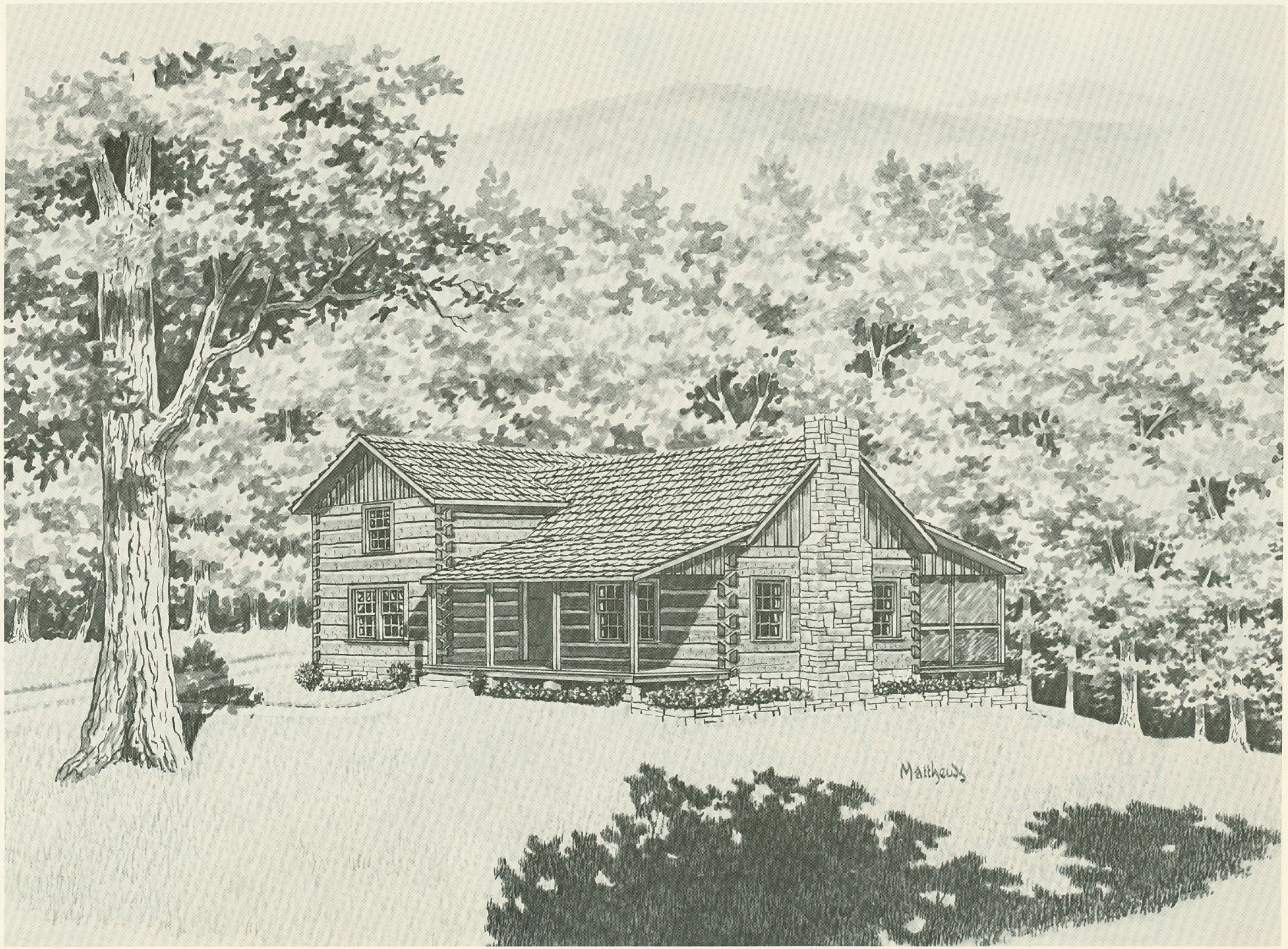


SECOND FLOOR PLAN



FIRST FLOOR PLAN

SIMPSON



Materials List:

18′ x 29′ 10″ + 18′ x 21′ 6″ log building
11 & 7 courses of logs

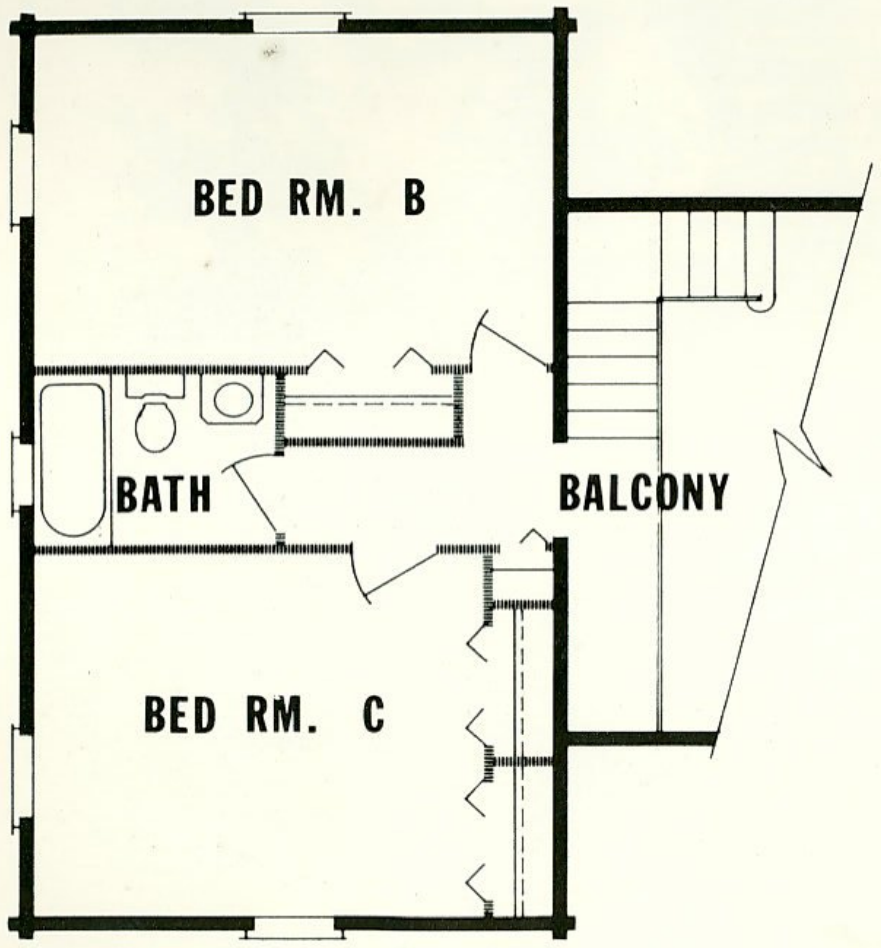
7 - 4x8 - 17′ 6″ Ceiling Beams
4 - 4x8 - 20′ 9″ Ceiling Beams
2 - 2x8 - 17′ 6″ Nailors 1-2x8-3'0"
1 - 4x10 - 10′ Header Beam

1 - 4x12 - 30′ Ridge Beam (lapped)
1 - 4x10 - 34′ Ridge Beam (lapped)
14 - 4x8 - 14′ Rafters
18 - 4x8 - 12′ Rafters
~~18 - 4x8 - 12′ Rafters~~
2 - 4x10 - 16′ Valley Rafters
1 - 4x10 - 8′ Header Rafter
3 - 4x8 - 12′ Wind Beams

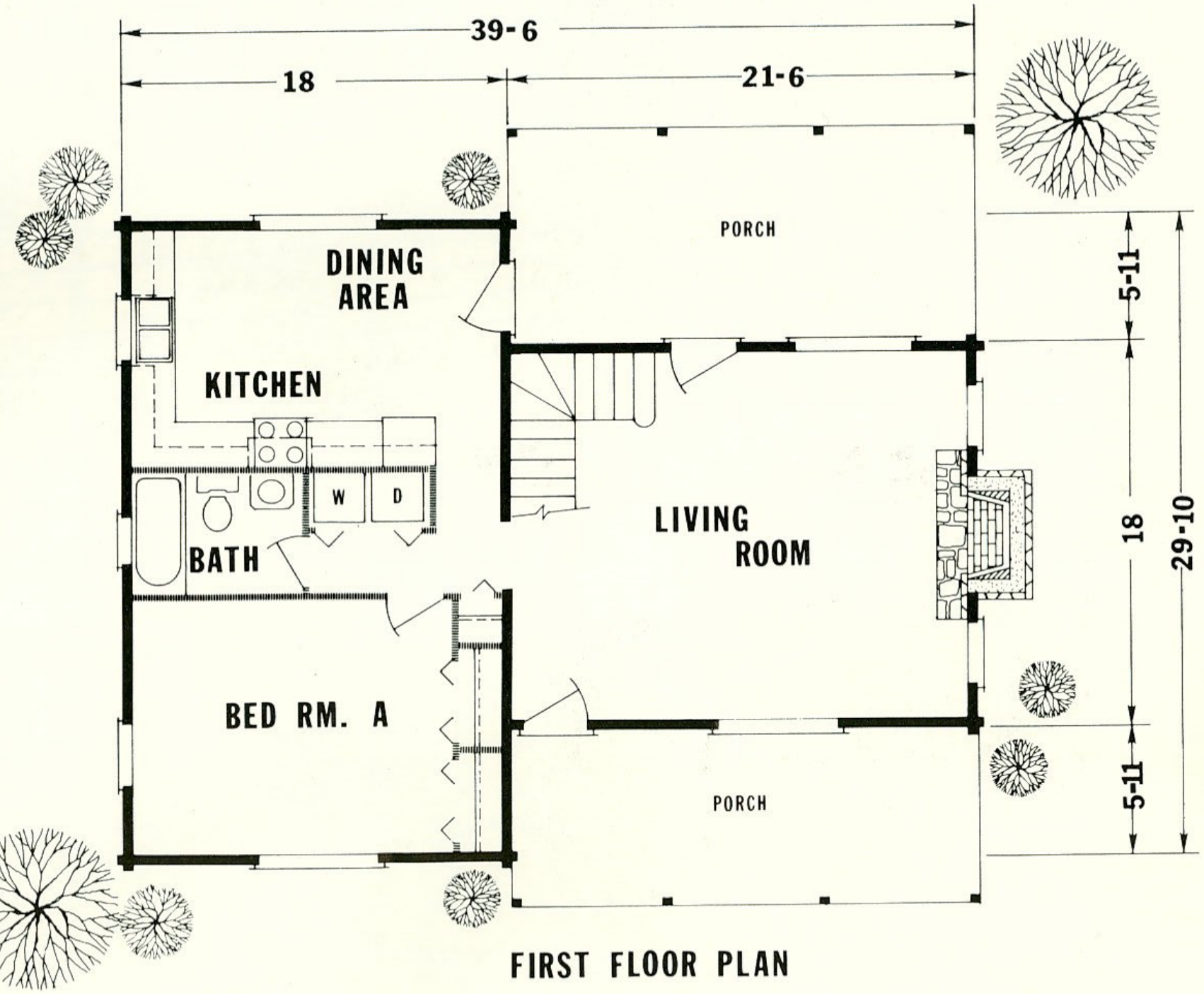
8 - 6x6 - 7′ Porch Posts
4 - 6x6 - 12′ Porch Beams
16 - 4x6 - 2′ Angle Brackets
2 - 4x6 - 8′ End Struts
2 - 4x6 - 10′ End Struts
12 - 2x4 - 10′ Porch Rafters
12 - 2x6 - 14′ Porch Rafters

1 - 4x12 - 8′ Mantle
2 - Mantle Brackets
40 - 1x4 Misc. bracing - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

12 - ½x9″ Bolts w/washers & nuts
4 - ½x11″ Bolts w/washers & nuts

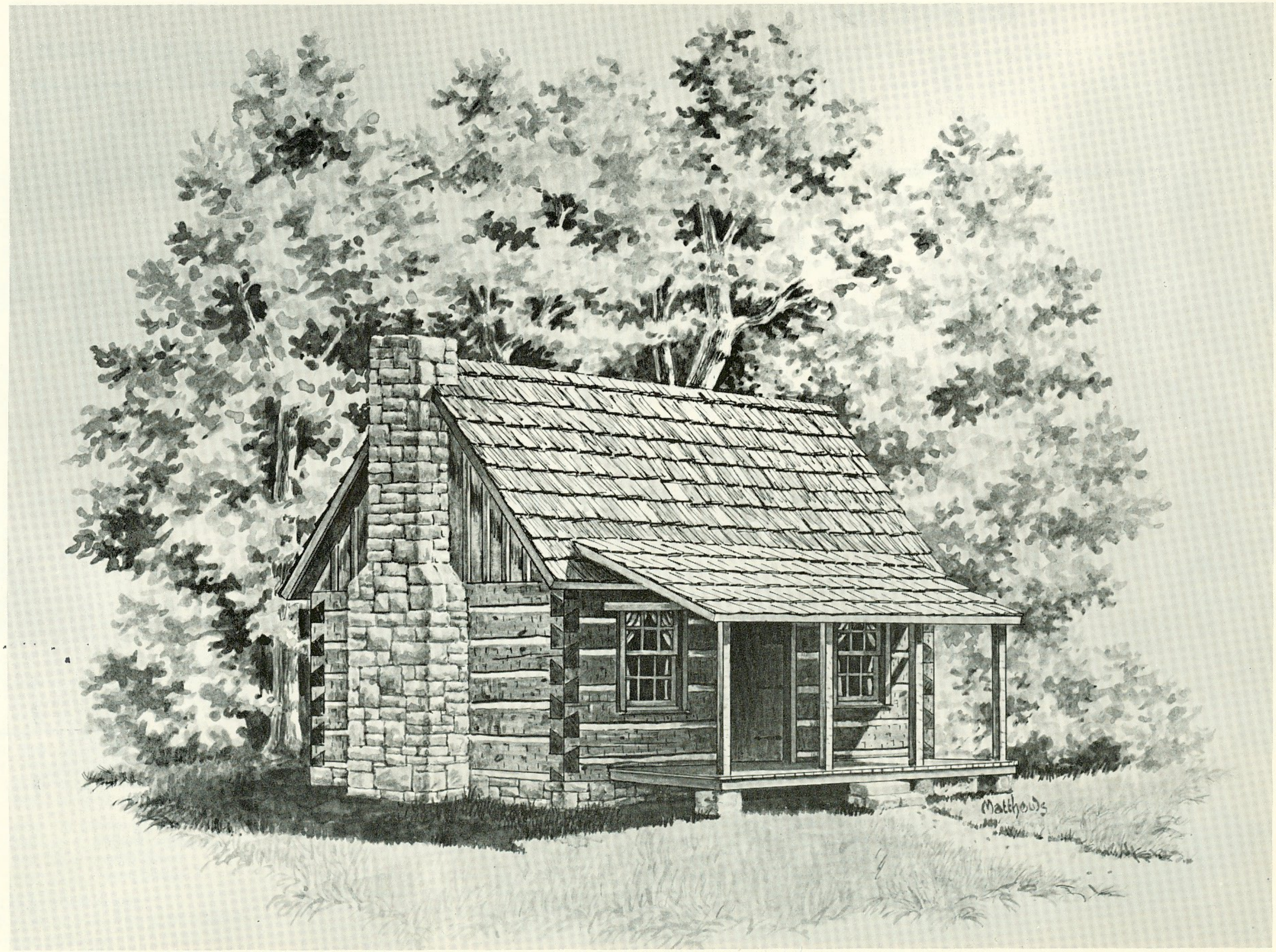


SECOND FLOOR PLAN



FIRST FLOOR PLAN

WOODSMAN



Materials List:

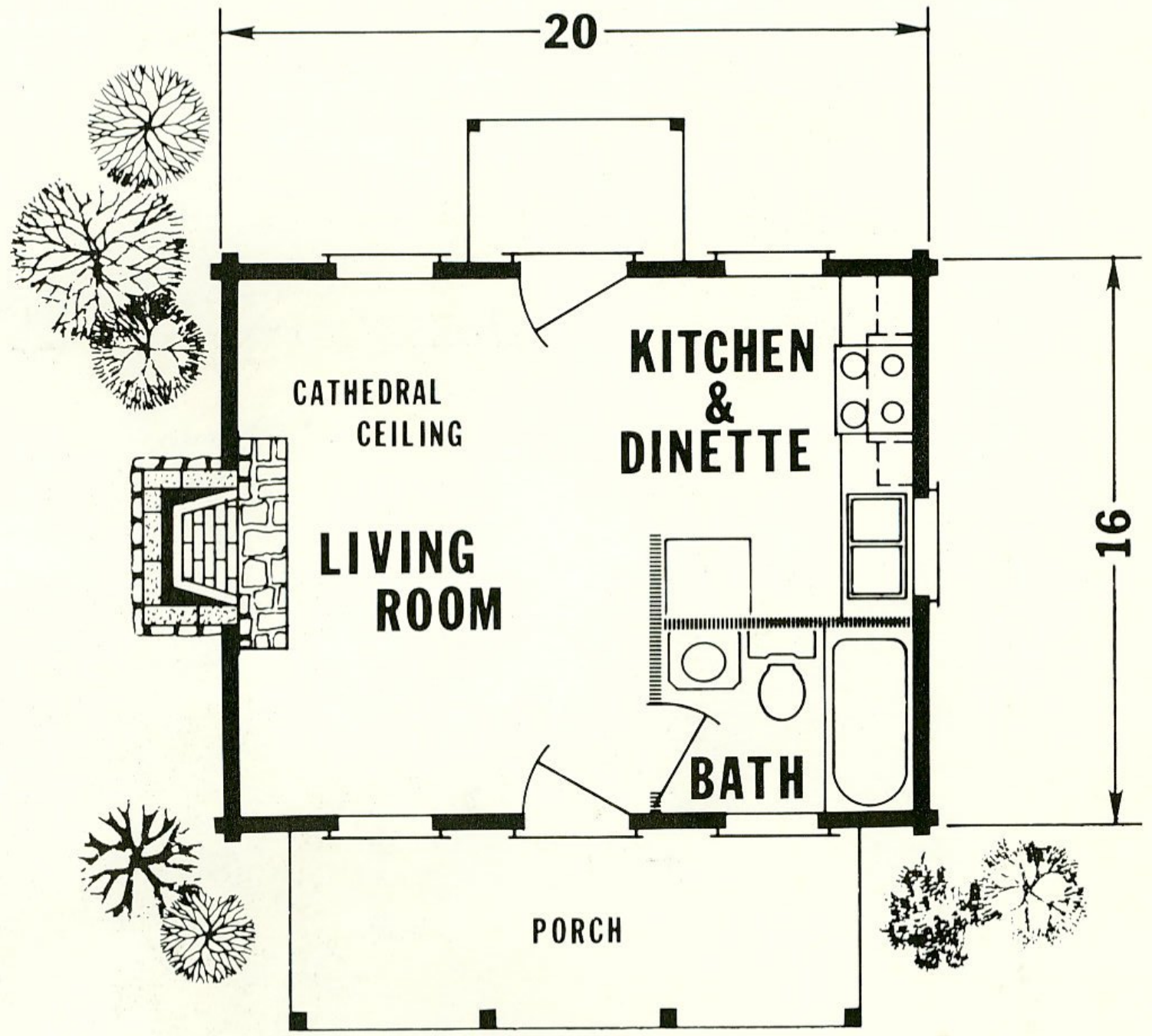
16′ 0″ x 20′ 0″ log building
7 courses of logs

5 - 4x8 - 15′ 6″ Ceiling Beams
1 - 2x8 - 15′ 6″ Nailor
1 - 4x8 - 10′ 0″ Header Beam

1 - 4x12 - 22′ Ridge Beam
12 - 4x8 - 14′ 0″ Rafters

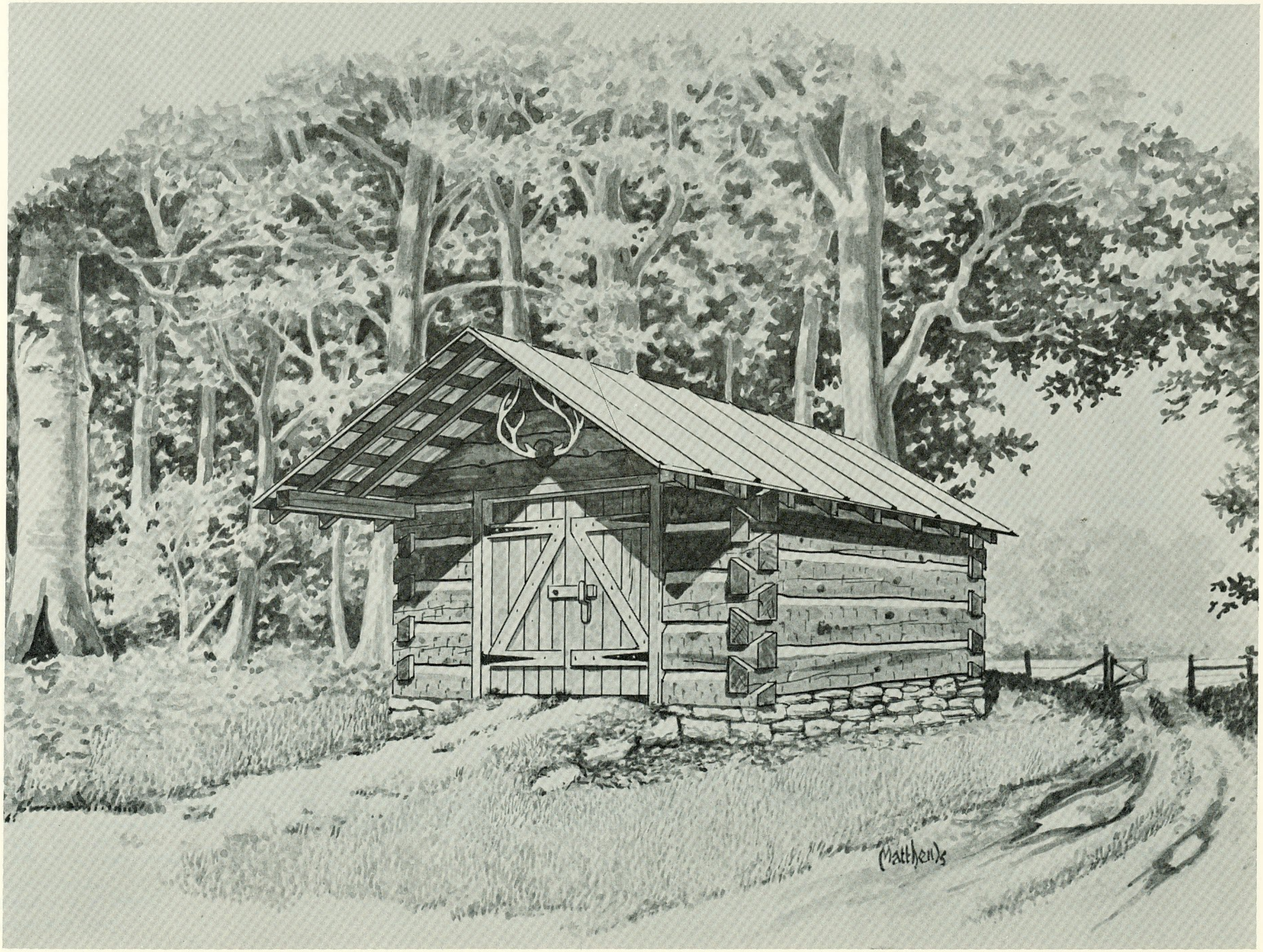
4 - 6x6 - 7′ Porch Posts
2 - 4x4 - 7′ Porch Posts
1 - 6x6 - 18′ Porch Beam
1 - 4x8 - 8′ Porch Beam
8 - 4x6 - 2′ Angle Brackets
2 - 4x6 - 10′ (cut 6′ & 4′) End Struts
~~13 - 2x4 - 8′~~ Porch Rafters
10 4x6-10' "
1 - 4x10 - 8′ Mantle
2 - Mantle Brackets
20 - 1x4 - Misc. braces - Roughsawn random length
12″ spike nails for every dovetail
7″ nails for sills and rafters

SECOND FLOOR PLAN



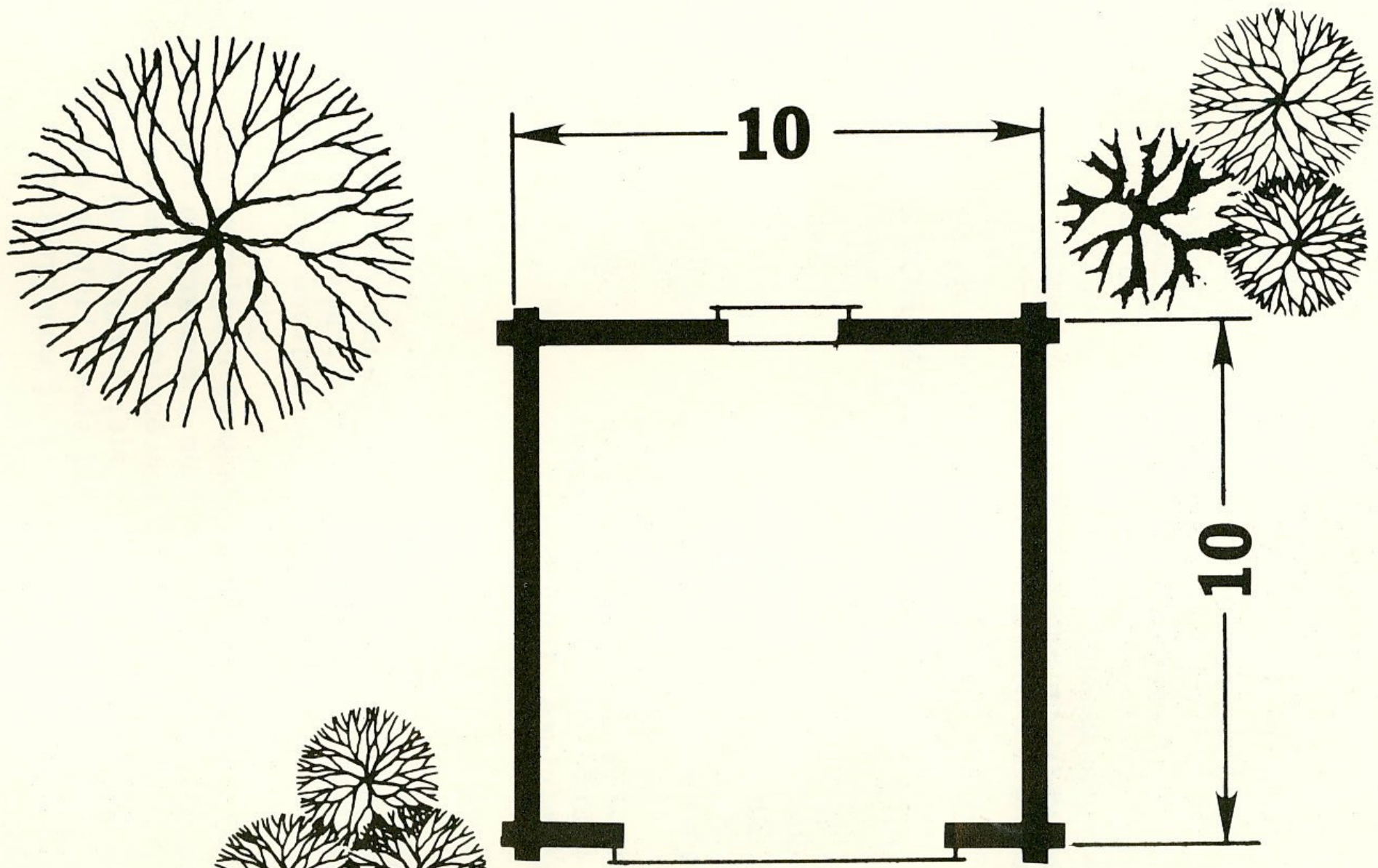
FIRST FLOOR PLAN

LITTLE SMOKEY



Materials List:

Log building	10′ 0″ x 10′ 0″ 4½ courses, 100 sq. ft.
Ridge rafter	1 ea. @ 2 x 6 x 14′ 0″
Rafters	16 ea. @ 2 x 4 x 8′ 0″
⅜″ x 12″ steel spikes	32 ea.



FLOOR PLAN

Heat Loss Survey

Louis M. Bouvier, a consulting engineer in Winston-Salem, N.C., did a comparative heat loss survey of all 16 Hearthstone models versus a conventional frame home with the same floor plan. His report indicates that in each case the log buildings had a 40-50% better heat holding capacity. Mr. Bouvier's certification of our 6" hand hewn log home made it possible for Hearthstone to sell in North Carolina, where a new energy code excluded some log home manufacturers. Our projects in North Carolina include six cabins for a state park. Our structural design and authenticity have won us other state projects such as a welcome center on I-24 in Tennessee. We are presently working on several proposals for state recreation projects.

Hearthstone also receives several requests each year for hand hewn beams to be used in conventional construction. We are also active in supplying logs for repair of historical buildings. Please feel free to call us about your special needs.

October 15, 1979

LOUIS M. BOUVIER

CONSULTING ENGINEER

Mr. Bob Wray
Chief Energy Engineer
N. C. Department of Insurance
Raleigh, North Carolina 27611

Re: Hearthstone Log Cabins
Hearthstone Builders, Inc.
Dandridge, Tennessee

Dear Sir:

The transmission heat losses of the following listed Hearthstone log cabins were calculated in accordance with ASHRAE standards as set forth in the 1977 Fundamentals Handbook, using plans and construction details furnished to our office by Hearthstone Builders, Inc.

Calculations for each cabin were completed first using the log cabin construction details and then a comparison calculation was done for the same cabin using minimum conventional construction standards as outlined in the N. C. State Energy Code, per your directions to Mr. Bill Robinson of our office. The attached sheet lists a comparison of the calculated heat losses for the two types of construction.

Based upon these calculations, in our opinion, the construction of the above listed log cabins complies with the requirements of Section 3201 of the North Carolina State Energy Code. The transmission heat losses were lower than the amount permitted by the State Code. We therefore certify the design of each cabin as complying with the North Carolina State Energy Code.

Please find attached also cabin construction wall, floor, and roof transmission coefficient calculation sheets.

Yours very truly,

Louis M. Bouvier, Consulting Engineer

LMB/ccj

September 20, 1979

HEARTHSTONE LOG CABINS
SUMMARY OF CALCULATIONS
COMPARATIVE TRANSMISSION HEAT LOSS
LOG HOME CONSTRUCTION
VERSUS
MINIMUM CONVENTIONAL HOME CONSTRUCTION REQUIREMENTS
PER NORTH CAROLINA ENERGY CODE

Home Model	Log Home Transmission Losses	Conventional Const. Transmission Loss
The Continental I	24,651	44,762
The Continental II	23,581	43,141
The Pioneer	25,770	46,404
The Lakeside	19,997	31,605
The Woodsman	10,244	19,689
The Cedar Lodge	18,522	31,900
The Simpson	27,707	46,431
The Shenandoah	25,532	49,378
The Crockett	27,279	48,141
The Patriot	37,155	69,341
The Charleston	33,450	57,708
The Francis Marion	23,294	42,797
The Old Hickory	33,155	62,322
The Macon	21,767	40,123
The Lincoln	25,000	46,288
The Chalet *	28,782	32,898

* The certification of the Chalet is permitted under the classification as a special structure since heat transmission loss for log construction is less than the same home with conventional construction. (Per telephone conversation with Mr. Bob Wray.)



LOUIS M. BOUVIER
CONSULTING ENGINEER
WINSTON-SALEM, N. C.

Notes:









This is the Ray and Linda Bass home in Newton Grove, North Carolina. Ray and Linda did almost all the work themselves. The results prove that determination and skill can still produce a home of great beauty. We think that any pioneer craftsman would give his approval to such a superb job. Homes like this one also make us at Hearthstone especially proud of our product. Congratulations, Ray & Linda!



Photos courtesy of David Johnson, Newton Grove, N.C.

Log homes have a unique charm. They are adaptable to the landscape. It is no wonder that everyone loves a log home. This home in the snow creates a sense of peacefulness beyond words. Log homes are equally beautiful in the spring and summer when the trees and flowers are in full array. They are also beautiful in the fall when the crisp air turns the leaves a hundred colors.

Let us build one for you!

