

The Log Home:

An American Dream



Sponsored By  
Log Homes Council  
National Association of Home Builders

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## The Log Home: An American Dream

The log home in America enjoys a rich tradition spanning centuries of progress and millions of happy homeowners. Not only have log homes provided shelter and comfort for millions across this nation, but the log home has served as a reflection of the country throughout its history.

Scandinavian settlers introduced the first log home building techniques in America during the 17th century. By clearing forestland to create villages and using the fallen timber as a building material, these early settlers unknowingly began the first “green” building movement. To this day, log home building remains one of the only construction methods heavily dependent on renewable natural resources.

The earliest log homes took on the qualities of early Americans — rugged, resourceful, and resilient. New methods of log building were invented and tested. Log homeowners in colder climates developed special mixtures to seal cracks and spaces between logs — precursors to today’s chinking and sealant systems.

Log homes were permanently sewn into the fabric of America during the middle of the 19th century. Most Americans can identify Abraham Lincoln as the “Log Home President” and to this day, Lincoln remains the most famous American to live in a log home. But few people know that one of Lincoln’s predecessors, William Henry Harrison, was among the first to parlay the lifestyle of log home living to national success.

The election of 1840 featured incumbent Martin Van Buren, widely viewed as a wealthy aristocrat who drank champagne, against Whig Party candidate William Henry Harrison. Harrison’s campaign cast the candidate as an approachable and simple frontiersman — one that enjoyed his log cabin and drinking cider. Harrison’s lifestyle, which reflected that of many 19th century Americans, helped him gain a decisive edge in the electoral college and become the ninth president.

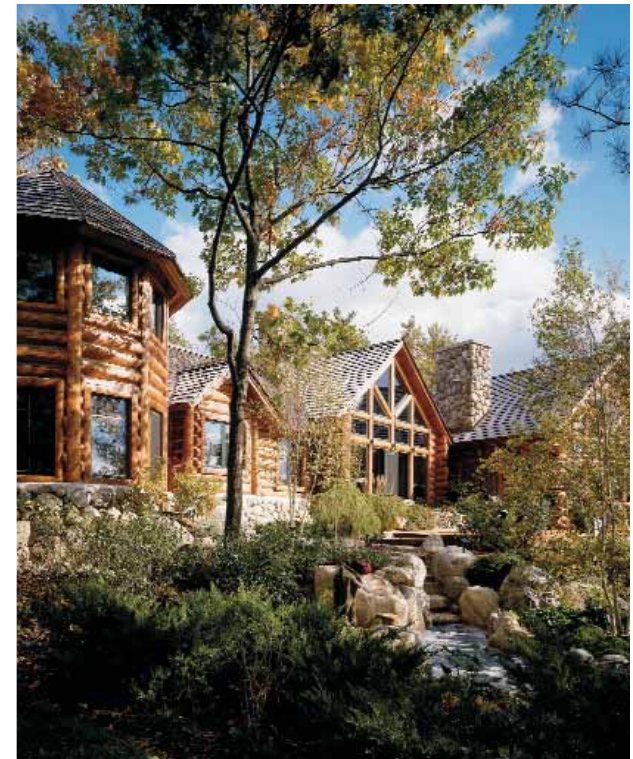
In the late 19th century, log homes remained part of the changing American landscape. Advances in railroad transportation made travel to remote locations easy and accessible. Log homes were built bigger and more luxurious than before to accommodate vacationers to places like New York’s Adirondack Mountains.

Like the early settlers who brought log construction methods to their new land, pioneers during America’s “manifest destiny” erected log homes throughout the nation’s upper mid-West. As log homes expanded throughout the country, construction methods evolved. Builders used a variety of wood species to construct their homes, using whatever species was most prevalent. Regional variations in cornering and fastening were also common.

Today’s modern log home manufacturer combines the experiences and lessons of a 400-year old process to produce an exemplary residence. More than 25,000 log homes are sold each year and account for a significant amount of the custom home building market. The inherent craftsmanship and beauty of log homes have long pleased vacationers, but buyers are increasingly building log homes as their primary residence. The notion

that log homes are no more than glorified cabins or temporary structures has long been dispelled. Present-day log homes abound with personalizations from media rooms, multi-level porches and decks, Jacuzzis, formal dining rooms — nearly every amenity available.

*Since the dawn of the United States, the log home has been a constant presence. As the country expanded, grew, and modernized, so too has the log home. Today, log homes are prevalent coast-to-coast and constructed in all fifty states. The log home plays an integral role in America’s past and present, and will remain a fixture of this country in the future.*





## The Log Homes Council: Protecting the Industry



**P**urchasing a new home is one of the largest investments any person will ever make. Savvy homebuyers will undertake generous amounts of research before making the most informed decision. Purchasing a log home is not only a large financial investment, it also requires buyers to grasp more intricate information than conventional construction. With more than 300 log home manufacturers in the United States, a homebuyer should begin their search for a log home through the Log Homes Council (LHC).

The North American Log Homes Council was founded in the mid-1970's by several log home manufacturing companies to bring technical and ethical standards to the industry. As the council expanded its membership and consumer benefits, the council aligned with the Building Systems Councils of the National Association of Home Builders and became the Log Homes Council.

Today, the Log Homes Council has approximately 60 members nationwide including handcrafters, custom log home builders, and some of the largest log home manufacturers in the country. Each Log Home Council member must meet and maintain technical and ethical criteria to be eligible for membership. The Log Homes Council has enacted three important safeguards to protect consumers: mandatory log grading, publication of a construction manual, and adherence to the Log Homes Council's Code of Ethics.

**Log Grading** — Log grading is a process that certifies the quality of logs before the product leaves a sawmill. All LHC members are required to participate in a third-party log grading program prior to joining the council. The log grading process guarantees the consumer that their logs meet or exceed national standards for home building.

**Construction Manual** — As each log home system is unique, each log home manufacturer's construction specifications are also unique. To ensure that our members' products are built to the highest standards, all LHC members are required to publish a construction manual. This manual is a detailed, step-by-step resource for building your new log home. Whether you are using the log home manufacturer's builder/dealer, a local contractor, or building the home yourself, having the construction manual is invaluable.

**Code of Ethics** — The Log Homes Council Code of Ethics mandates a fair and ethical method for business practices — from construction standards to customer service. The full document is available from the Council and posted online. Consumers who feel a council member is in violation of this code of ethics may file a formal letter of complaint with the Council. The Log Homes Council Ethics Committee was formed to handle incoming ethics complaints and mediate a resolution in the best interests of both parties.

In addition to the safeguards listed above, the Log Homes Council publishes white papers and technical notes on subjects ranging from energy efficiency to controlling and preventing termites. All Log Homes Council publications are available online at [www.loghomes.org](http://www.loghomes.org) or by contacting the council at 800-368-5242 x8576.

## Log Homes: Up To Code

**A**mong the reasons log home owners love their residences is the unique aesthetic and architectural qualities of log homes. While log homes are more popular than ever, those who live in them share a common bond of lifestyle and comfort. While the uniqueness of a log home is one of the industry's main selling points, it also means that across the country, code officials and home inspectors may not be familiar with the intricacies and peculiarities of a log home. The Log Homes Council has developed some factors to take into consideration before having your home inspected.

**Grading** — Timber approved by a certified log grading program has been visually inspected and certified to a certain grade, which translates into a certain strength. It is important for building officials to understand and appreciate the grading process from a structural standpoint. Be sure to have documentation of your manufacturer's grading certification available for the inspector(s).

**Plans/Construction Manuals** — In addition to submitting design plans to your local jurisdiction, having a professionally-provided construction manual will carry a good deal of weight. If your building official can see that the home has been carefully planned for design and construction, the approval and building process can be more efficient and comfortable for all involved.

**Energy Issues** — Historically, issues of energy efficiency and insulation have been a point of contention between the log home industry and code officials. This misunderstanding stems from most building codes requiring an R-value — a numeric

indicator of the resistant characteristics of building materials — and timber naturally carries a low R-value. All wood, however, has a varying level of thermal mass, a term that describes the natural energy properties of timber. Until the International Code Council puts forth its standards for log construction, prospective log homeowners should educate themselves on thermal mass and the relationship to R-value by consulting the Log Homes Library on [www.loghomes.org](http://www.loghomes.org) or by reading available Department of Energy documents.

**Fire Performance** — Understanding the fire resistance and performance of log walls is critical information to a code official. While there are fire-resistant systems available to the log homeowner, there are natural fire performance characteristics inherent in logs that should be explored. A Log Homes Council white paper on the subject, available online, is a good starting point for information.

**General Log Construction** — Sometimes the only reason building and code officials are skeptical of log construction is simply because they have never encountered a log home before. Log home building systems are not very different than a stick-built home; the same fundamentals apply to construction of the foundation, exterior and interior walls, roof, floors, and utilities. Focusing on the similarities of log and stick-built construction can give the novice code or building official a certain level of comfort.



## Log Homes Across the Country

Throughout our beautiful country, you can find beautiful log homes. From the cold Maine frontier to the tropics of Dade County, Florida to the frozen tundra of Alaska to the beautiful forests of San Diego County, California, you will find log homes.

Prior to 1970, as you traveled throughout the country, you would find that different styles of log home construction would dominate a particular area. The log homes you found were often older, historical homes that had survived the elements of time. The people that settled the land, the type of construction they knew, plus the dominant timber available determined the style of log home built.

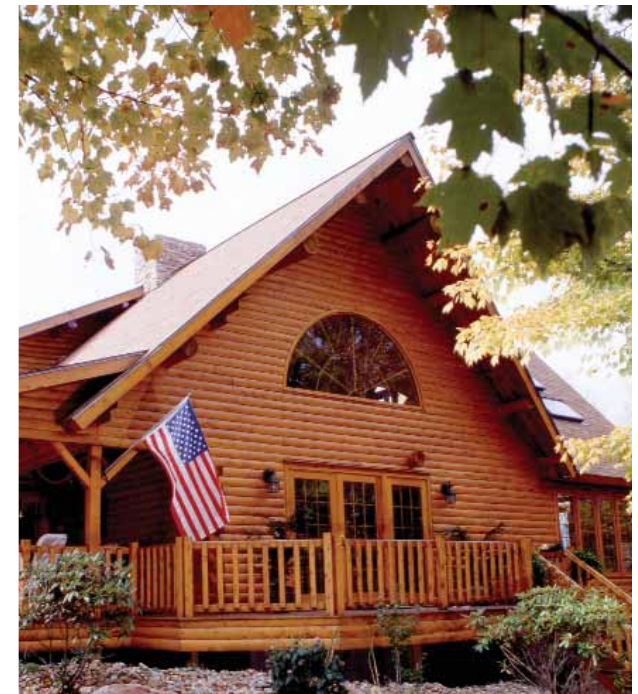
In the Appalachian Mountains, logs were flat on the outside and inside with wide bands of chinking between them. The corners were what we now call “dovetailed” and cut with angles. When you visited the Rocky Mountains, homes were often built of very large logs with the natural round contour of the log on both the interior and exterior of the home. Again, chinking was usually visible but the corners were what we now called “saddlenotched” and cut to fit together in an interlocking pattern. In the upper Midwest and the Northeast, you would find logs of smaller diameter that were cut to fit tighter together and usually did not use chinking. Corners were a “butt and pass” system where alternating logs would extend on the corners.

Over the past few decades, the popularity of log homes has increased steadily. With log home manufacturers now able to mill many styles of log homes and transportation routes and methods improving, today you will find all styles of log homes in all parts of the country. No matter where

you live, you can find a company to provide you with your dream home.

Recent studies prove that the geographic reach of log homes extends across the country. The two most popular states for log home construction, Colorado and New York, are separated by nearly 1,800 miles, yet connected by pristine wilderness and luxurious log home living. Similarly, the third and fourth most popular states for log home construction, Wisconsin and North Carolina, have large areas of forest in common, despite being nearly 1,000 miles apart.

While preferred wood species and building styles change from person to person and area to area, the popularity of log homes is consistent throughout all parts of the United States. No matter where we live, Americans share the dream of a log home.



## “Do it Yourself” is Satisfying and Efficient When the Home is Manufactured by a Log Homes Council Member

“**T**here’s something truly satisfying about building your own log home. Every time you set a log in place, you see the entire wall grow right before your eyes — inside and out. There’s no going back to stuff insulation between the studs or nail up Wallboard!”

That’s how Jess Fulk describes the joy of building his own log home in Schuyler, Virginia, a rural community better known as Walton’s Mountain. It’s a place where life reflects the honest values portrayed on *The Waltons* — in fact, Jess was Principal of the school that is now a museum dedicated to both the TV saga and the Hamner family that inspired the long-running series, and is based on the writing of son Earl Hamner — the real John Boy.

In Schuyler, “do it yourself” isn’t an idle expression, it’s a way of life. “When you build your own home, you build memories right from the start,” recalls Jess of his log home building experience. But Jess grew up on a farm where he jokes about having built everything from a “dog house to cow barn.” Is building a log home a project for the weekend sawyer?

Jess thinks so. “For the do-it-yourselfer, log homes have several advantages over stick construction. All the materials arrive on site to eliminate wasteful running around time and, in many cases, the logs and other components are pre-cut and numbered. If you purchase from a Log Homes Council

member, detailed construction manuals are available and technical help is just a phone call away.” Overall, building time is faster and more straightforward than with a frame house, insists Jess. To eliminate surprises on the job, the manufacturer’s design department worked out all the engineering requirements well in advance. His home was inspired by the summer homes on the Outer Banks resort of Nags Head, North Carolina, where irregular rooflines and complex angles are prevalent.

Log Homes Council members offer support to “do it yourselfers” — both experienced and first-time home builders. This can include ongoing consulting, technical support or periodic onsite reviews, such as checking the first course of logs to make sure they are properly set and square. Two excellent books on the subject are *Log Homes Made Easy: Contracting and Building Your Own Log Home* and *Log Home Project Planner* by Jim Cooper. Cooper is active in the Log Homes Council and his own log home won an Award of Excellence from the Council’s parent organization, the National Association of Home Builders.

After the log walls are completed, the rough framing, or “bucks”, for the windows and doors are nailed in place. The actual doors and windows are pre-hung and those made by national manufacturers often include detailed, consumer-friendly instructions to make positioning even the largest patio door problem free. All it takes is patience and a good carpenter’s level. Roof work and shingling is similar to conventional homes.

Most people’s lives — and financial situations — do not allow for an open-ended building schedule. To stay on track, Jess recommends determining how

much actual hands-on work you are willing to do — from making the home weather-tight to working alongside masons, electricians, plumbers and other craftspeople to see the project through to completion. Usually you have to strike a balance — if you feel uncomfortable working on a steep pitch, hire a roofing contractor.

Building a home is not a solo job. “Hire at least two skilled helpers to work with you. Relatives and friends may start out with good intentions but career and family obligations often prevent them from sticking to the job.” Three people can build a weather-tight shell in two to three months and the interior work can be completed within three months after that. Most of the work can be done with ordinary power tools. However, an eight-inch circular saw will make large timbers easier to handle and a pneumatic nailer is quicker and speeds the conventional carpentry.

An option to hands-on participation is to act as your own general contractor, which can reduce costs by as much as 10 to 20 percent. Jess, who hired specialists to install flooring, plumbing, the electrical system, heating and air-conditioning, notes, “As an owner-contractor you may receive more attention to detail and better service from the subcontractors. But scheduling takes finesse and good people skills.”

With a superbly designed and manufactured log home package, the security of working with a Log Homes Council member, and a dose of enthusiasm, you can indeed experience the satisfaction and joy of living in the log home you built yourself.



## Based on his experience, Jess Fulk advises:

- Make sure your log home company is a member of the Log Homes Council of the National Association of Home Builders. Council members have developed and comply with national log grading standards, abide by a uniform code of ethics, and participate in national seminars to keep abreast of new technology — all with the goal of assuring customer satisfaction and a hassle free building experience.
- Once the log home package arrives, sort all the materials before starting to build. Doing so eliminates wasting time looking for specific pre-cut items while construction is proceeding.
- Some log homes may be built without heavy equipment, but large beams and trusses may be set into place more easily with a crane — available for rent by the day.
- Review the Construction Manual to become familiar with the overall project and insist that everyone on the job follow its directions. Council member companies have developed and tested all construction details to make sure your home is constructed properly and meets national building codes.
- Weigh the cost and time of having components like kitchen cabinets or elaborate spiral stairway crafted locally versus ordering from national manufacturers.
- Plan electrical work in advance. Channels for switches or outlets installed on exterior walls have to be drilled as each log course is put into place. Though wireless communication technology is gathering momentum on the home front, accommodate for cable TV, telephone, security systems and fiber optics as well. Installing wiring or plumbing through interior walls is identical to installing them in a framed home.
- Double or perhaps triple the electrical outlets in home offices and media rooms as there can never be too many.
- Heating and air-conditioning units are identical to frame houses, except that most log homeowners report substantially lower energy costs both summer and winter.



## The Efficiency of Log Homes

**T**he log home, while a fundamental American construction concept, combines techniques brought to this country by early settlers, methods honed by colonial pioneers, and modern factory and architectural technology. Some of the oldest occupied structures in North America are log buildings, indicating their durability when properly designed and constructed. Modern manufacturing methods are utilizing new technology, making log homes increasingly energy efficient and even more long lasting. The Log Homes Council's Technical Committee routinely drafts and updates research reports, tech notes, and white papers on the unique and dynamic properties of log homes and log structures.

The design and construction of log buildings has evolved since the earliest recorded log structures of Russia, Scandinavia, and Eastern Europe. Those historic structures were created from indigenous materials. Today, the log building industry ranges from traditional handcrafted products to highly technical systems created using computer aided design (CAD) and factory milling.

### How Log Homes Are Different

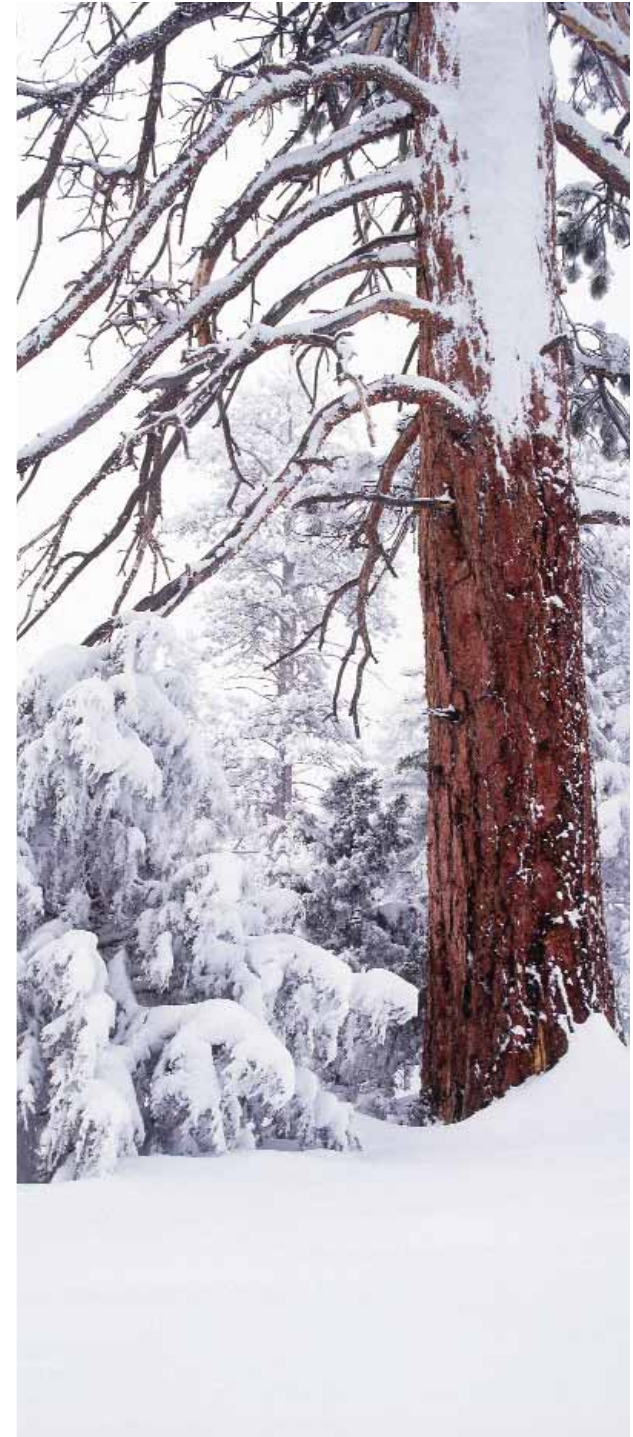
The primary difference between a log home and any other type of construction is the wall system. Log wall systems consist of a solid material, wood, that is visible to the interior and exterior as opposed to a cavity type of system. This difference accounts for performance characteristic variances such as heat transfer, air infiltration, and even fire ratings. In addition, the wood itself is a natural material that is not uniform — it has been theorized that the movement of heat through wood

is not linear because of the variation of wood density, cell orientation, and other variables that change the composition of the wood across the width of the wall. Research on log structure properties, including fire performance, air infiltration, and more are available online at [www.loghomes.org](http://www.loghomes.org) or by contacting the Log Homes Council.

### Environmental Efficiency

Log homes are constructed of natural and renewable materials and are inherently more environmentally efficient than processed lumber. Using logs is considered a “green building” method especially when the timber is produced locally, or the log home producer uses wind or fire-killed timber as the log source.

Another environmental consideration of log construction won't be realized for many years. When the log home is demolished or deconstructed for its component parts, each log will provide value as a source of quality timber for producing other lumber products, unlike stick frame construction that is often demolished and relegated to landfills.



## Energy Efficiency Matters

A typical roadblock to determining the energy properties of a log home is a lack of understanding of thermal mass as it relates to R-value. Thermal mass describes a log's heat capacity over a sectional area, taking into account thickness, density, and specific heat of the material. Thermal mass is an innate quality of all logs and all log homes. R-value, on the other hand, is a numerical measure of a building material's resistance to heat flow over the thickness of the material or over a fixed thickness (i.e. R-value/inch). A thorough study of thermal mass, its relationship to R-value, and the overall energy properties of log structures is available from the Log Homes Council. There is also a large amount of engineering technical literature supporting the validity of granting performance adjustments or "credits" for thermal mass in structural walls of buildings.

To understand the thermal mass benefits of log construction, consider that a log home built with 7-inch solid wood walls might have an indicated steady-state R-value of R-9, but in most U.S. climates — especially those where log homes are most popular — a stick-framed home would have to be insulated to about R-13 (or more in some areas) to perform as well for heating and air-conditioning energy use on an annual basis. This comparison assumes similar attic insulation, window performance, foundation design and the use of identically efficient mechanical systems for heating and cooling. In practical terms, log homes may be considered 2.5%–15% more energy efficient compared with an identical wood-frame home, considering annual purchased heating and cooling energy needs.

In real terms, this means an owner of a log home might expend \$150 to \$400 (in 2003 dollars) less per year on their heating and cooling-related utility bills, while maintaining equal or superior comfort under real-world weather conditions. When drawn out over the life of a log home, these savings can add up to considerable sums.

All told, the log home has been shown to be a competitively energy efficient, durable, and environmentally friendly alternative to typical stick frame construction. Technical progress will continue to evolve, producing log homes with consistently improving qualities. Consumers and the environment will benefit from increasing recognition of log homes as green and efficient dwellings.

*Information in this article was compiled with information from U.S. Department of Energy Publications and the Log Homes Council Publication "The Energy Performance of Log Homes," available at [www.loghomes.org](http://www.loghomes.org).*





## Understanding the Log Home Buying/Building Process

When a consumer has so many choices of log home manufacturers, log styles, and floor plans, the process of buying and building a log home can be confusing. However, with a little forethought and research, you can realize exactly the right log home to meet your needs and budget.

It all starts with the right design considerations. But, before you start going through plan books in search of the “perfect floor plan,” begin by making a list of all the features you need and want in your new home. Start with number of bedrooms and baths, whether you prefer a one-story home or multiple levels, and other “must haves,” which may include a garage, basement, porches, or decks. Include anything that is important to you to make your home livable and comfortable. Give thought to room sizes and locations, such as whether you want your master suite on the main level or upper level, the basic layout of the home, and how the home will lie on your building site.

Your goal should be to have a working idea of a floor plan so that you’ll be able to properly evaluate plans you see, or to explain your needs concisely to a designer. As you define your needs, have in mind a realistic budget and be prepared to share that with those that you work with throughout the design/build process.

With your design ideas and budget firmly in mind, you are ready to start interviewing log home manufacturers. The Log Homes Council Web site, [www.loghomes.org](http://www.loghomes.org), will connect you with over 50 major log home companies from around the country. Each company’s Web site will give you an overview of their products and services, areas of the country they serve, and at least a sample of their floorplans. Pay particular attention to the log styles and species, services, and company profiles, as most log home companies will offer custom design services to help you design exactly the floor plan and style that you need.

You can meet with companies in person by visiting their closest sales model or dealer. Dealers’ locations and contact information usually are listed on a company’s Web site. Log home publications, such as *Country’s Best Log Homes*, *Log Home Design Ideas*, *Log Homes Illustrated*, and *Log Home Living*, often list dealers by state and can be a useful source of general information. Or, you can look in your local yellow pages under “Log Buildings, Homes, and Structures.” In addition, log home shows and seminars are held each year around the country featuring product displays and informative seminars. These shows give buyers an opportunity to spend time with several manufacturers under one roof.

As you visit shows, model homes, and Web sites you will come up with a list of Log Homes Council



members that impress you as potential partners in your building project. Give each company your specifications, time frame, and budget. Make your decision based on the responsiveness of each company, their ability to meet your needs, and the value of the services they offer. Note, though, that although the final package price is generally an issue with buyers, no two council members will offer identical materials packages. So, each company's price will depend on the quality and quantity of materials they include. Take time to evaluate each bid you receive, making sure you fully understand what is included, before you make your final evaluation and decide on a Log Homes Council member.

Understand, too, that quotes from log home manufacturers will often be for materials only. You'll need to get a construction bid from a builder or general contractor. The dealer or sales representative you choose should be able to put you in touch with experienced builders in your area. These representatives, in turn, can provide you with a complete "turn-key" price to build your home. If you have a builder in mind, many log home companies offer construction classes that will give your builder the information they need to properly construct your home using their product. And, all Log Homes Council members offer comprehensive and easy to follow Construction Manuals.

Many log home buyers have taken on the task of constructing their own log homes. This can be rewarding and personally satisfying if you have the time and skills to undertake such a project, but it is rarely a way to save money. More often than not, the most cost-effective way to build a log home is to hire a professional contractor, as the fee is generally far offset by purchasing power for

materials, and the ability to employ and schedule the best tradesmen. Mortgage and construction financing is often contingent upon using a qualified builder, leaving owner/builders with fewer financing options.

Once you have detailed floor plans and bids or contracts from the log home producer and the builder, you are ready to apply for financing. To build a new home, financing will be a two-part process consisting of a construction loan to cover the costs of construction, and a mortgage that allows you to spread those costs over time. In many areas you will be able to find local lenders experienced in log home lending and construction. However, several national lenders specialize in log home lending and offer competitive rates and experienced direction for log home buyers. For a list of log home finance specialists, visit [www.loghomes.org](http://www.loghomes.org).

With your mortgage and construction loan in place, you are ready to begin scheduling construction. Order your materials from the log home producer and coordinate delivery according to the builder's construction schedule. Using a builder, the typical construction cycle will take from four to six months from the time you place your order until you move into your home.

The more you take control of this project from the beginning, by researching options and making educated decisions, the smoother your project will flow. More importantly, understanding your requirements for your new home before you get serious in shopping will contribute to your long-term satisfaction and result in a home perfectly suited to the wants and needs of your family — truly, the log home of your dreams.

## Log Home Packages

Log home manufacturers are materials package producers. However, individual companies differ widely in the materials they include in their packages. Some include only the logs, while others offer more complete packages that might include roofing, interior trim, railings, and insulation. This lack of consistency often makes it difficult for shoppers to compare pricing from company to company. In general though, package offerings can be made up of any combination of the following components:

- Wall logs & related materials
- Rafters and second-floor beams
- Windows and exterior doors
- Partition framing materials
- Roof systems
- Porches and decks
- Interior doors and trim materials
- Stairs and railings
- Hardware
- Floor & loft systems



## Financing Your Dream Home

The majority of log home lenders today offer what is called a construction-to-permanent mortgage. This is a construction loan that automatically converts into a final end loan mortgage once the new home construction is complete. This method requires the borrower to have only one loan closing, thus avoiding having to pay for two separate sets of closing costs. As with any purchase, knowing the facts, terms, and intricacies of log home buying before entering the transaction is a benefit.

### Loan Application

During this first step, the lender collects the borrower's financial information, including W-2s, current pay stubs, most recent two month's statements for deposit accounts (checking, savings, mutual funds, 401K, etc.), and information about the new home to be built. The lender will also obtain a copy of the borrower's credit report.

### Underwriting

The underwriter reviews the completed application and makes a decision on moving forward with a loan. Upon approval, the lender will issue a commitment (approval) letter to officially state, in writing, under what requirements the loan is considered approvable. Usually, the requirements of the loan are called closing conditions.

### Closing Conditions

Closing conditions state the documentation needed prior to settling on a loan. Standard closing conditions include, but are not limited to: an acceptable appraisal, title insurance, source of the funds needed to make the down payment and closing costs, signed contracts between the

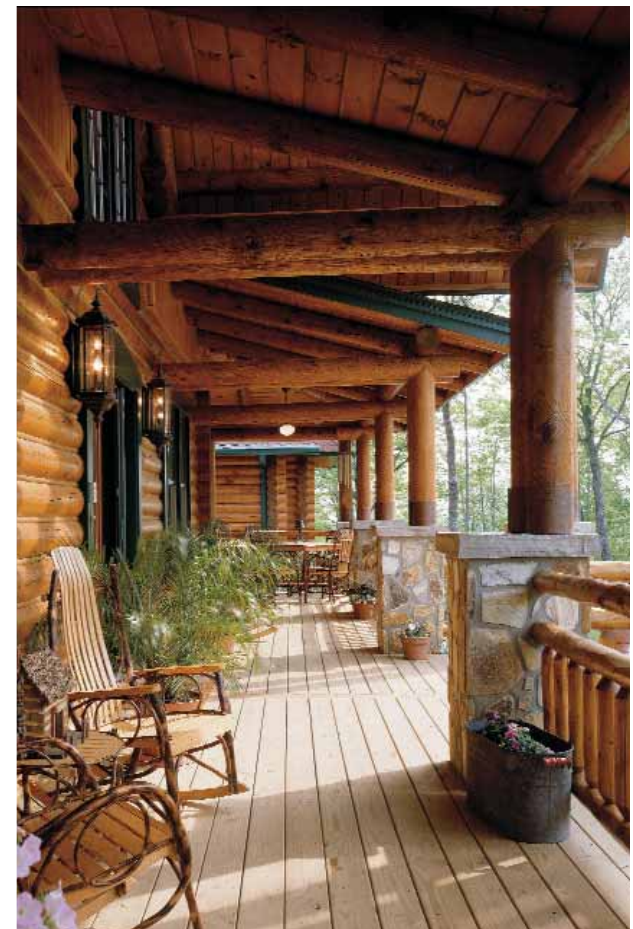
borrower and builder/contractor, and any applicable insurance policies (homeowners/flood).

### Appraisal

There was a time when many home appraisers had little experience with log homes, often undervaluing the structure. The Log Homes Council, to educate appraisers across the country, published "*Appraising Log Homes*." This free publication is available through the Log Homes Council.

For your appraisal, the lender will need a copy of the following items:

- **Building Plans**  
The plans need to show dimension and elevation measurements for the new home. Borrowers can normally submit preliminary plans for appraisal purposes as long as major changes to the footprint of the home are not made.
- **Specifications (Specs)**  
This list of all the building materials to be used during construction will be collected for the appraiser to assign proper value to the home. Quality and cost of materials can vary greatly, making specs an important part of the appraisal.
- **Building Contract**  
This binding agreement between borrower and builder/contractor lists the scope and price of the work to be completed.
- **Log Package Contract**  
This is a binding agreement between the borrower and log home manufacturer that states the cost of the log package.
- **Legal Description for the Building Lot**  
The legal description states the boundaries, dimensions, and size of the lot.



## Title Insurance

A local title company or attorney prepares and sends title insurance to the lender. Title insurance ensures the lender that there are no outstanding liens on the building lot.

## Initial Settlement

The lender sends the closing agent (title company or attorney) a set of closing instructions and closing documents. The instructions tell the closing agent how the lender wants the closing documents to be executed. The closing agent reviews and executes the settlement documents with the borrower. At this time the seller of the building lot will be paid in full and the lot transferred into the borrower's name. The documents are recorded in the local courthouse prior to sending them back to the lender. After initial settlement, the construction of the new home can begin.

## Construction

This is the time during which the new home is built. During construction, money is disbursed to the borrower and builder/contractor to fund the building process through completion. The funds are disbursed according to a disbursement schedule. During construction, the borrower will normally make interest-only payments to the lender on the funds as they are disbursed. A property inspection must be completed prior to the release of funds. The original appraiser performs the periodic inspections to determine that work is progressing according to the disbursement schedule. When the inspection report is received, the lender will release funds based on the inspector's assessment.

## Interest Rates

There are normally two interest rates involved with a construction-to-permanent loan. They are:

- **Construction Rate**

This is the rate at which the borrower is making interest-only payments as funds are disbursed during construction. This rate is usually locked sometime between the loan application and initial settlement. Construction rate and terms vary among different lenders.

- **Permanent Rate**

This is the rate of the borrower's actual end loan mortgage. This rate is normally locked sometime between loan application and loan modification (the time at which the new home is complete). The end loan rate and term also vary among different lenders.

## Loan Modification

Modification occurs when the new home construction is complete. This is the process of converting the construction loan into the permanent (end loan) mortgage. The lender sends the borrower a modification package to their home. The package includes documents for the borrower to sign and send back to the lender in order to convert the construction loan to the final end loan mortgage. It is not necessary for the borrower to meet with the attorney or title company again for the modification.

## Permanent Mortgage

Also known as the end loan. This is the long-term mortgage that is used to repay the funds that were borrowed as part of the construction loan.

Principal, interest, tax and insurance escrow amounts, and mortgage insurance premiums (if required) are paid by the borrower on a monthly basis. This is the loan for which the borrower applied and was approved for in the very beginning of the construction-to-permanent loan process.



## Preserving & Maintaining Your Log Home

**M**any homebuyers choose log home living because of the lifestyle and the unique properties of the home itself. But, with the choice of a log home comes certain responsibilities. Log homes are one of the few types of residential homes built today with exterior wood siding. Granted, log walls are not typically thought of as siding, but they are a log home's only natural defense from the elements. Vinyl siding has replaced wood as the exterior siding of choice in most new residential developments; however, homeowners still prefer homes with log siding. With preventative maintenance and routine inspection, log homeowners can protect their dream homes from adverse conditions.

Wood is the most versatile natural building material on the planet. As a renewable plant material, wood offers some natural resistance to the effects of sun exposure, moisture, extreme temperature, insects and microorganisms. When more than one of these conditions is present at the same time, however, wood can begin to deteriorate. Unlike homes built with vinyl siding, a log home's structural integrity is dependent on sound maintenance practices.

Of all natural hazards to wood, moisture can be the most destructive. Aside from the damage that moisture alone can cause, an absence of moisture limits the effects of other hazards (consider that without moisture, the destructive force of UV radiation on wood is only about 1/4" per century!). Moisture, in combination with sunlight, greatly intensifies and accelerates the damaging and discoloring effects in wood cells and can cause



cracks to form on the wood surface. Specific levels of moisture also support wood-destroying rot fungus, mildew, sap stain, and is a necessary requirement for many insect infestations.

While moisture is the principal ingredient supporting wood deterioration, it is also the most controllable. The primary goal of log home maintenance is finding ways to control moisture.

### **Keeping the Logs Dry**

The most basic way to keep logs dry is to shelter them from Mother Nature. If a log surface is left unprotected for a prolonged period of time, the bare wood surface will quickly discolor and start to erode and decay. Certain species of wood are naturally more decay-prone, so understanding the natural properties of your home's wood type is essential. To keep logs adequately protected, some type of water and weather resistant coating is needed to provide a barrier that will help shield the harmful outdoor elements from the wood surface.

### **Choosing a Wood Coating**

The key to selecting the appropriate coating for your log home is research. It is natural for homebuyers to consult their home's manufacturer for advice. Members of the Log Homes Council are able to draw on their experience as well as the knowledge of the council's technical committee for research and recommendations.

Beyond consulting the log home company, homebuyers can research a variety of companies specializing in log home stains, preservatives, and sealants. These companies offer vast information on their product, will sometimes send free samples, and explain why their system is the

system of choice for log homes. Many of these companies are members of the Log Homes Council's Associate Members Council, online, at log home shows, and in log home industry publications.

Once you have compiled more information than you ever thought possible on log home maintenance, it is best to consult the real experts — other log home owners. You will be able to learn what methods worked for certain types of homes without the pressure of feeling "sold" on a product. Generally, the large amount of information will edit itself down to a few reputable choices of preservative.

### **Other Considerations**

Before selecting a stain or other preservative, it is best to consider the location and design of your log home. Southern climates, higher elevations, and waterfront properties are examples of locations that can expedite deterioration of a log's protective coating. The southern and western sides of a log building will always weather at a faster rate than their eastern and northern counterparts. That is why design and landscape considerations, such as a porch on the southern side of the house or trees that serve as a natural shelter against the direct exposure of the sun and wind, are important factors in determining the overall frequency and cost of maintenance.

### **Periodic Inspections**

Once you own your dream log home, you should know how to live in it. All log home owners should perform visual inspections at least once a year to insure the integrity and well-being of the home. On newer logs that are in the process of losing internal

moisture and drying out, cracks (called checks) in the logs can occur. These types of checks, caused by the natural drying process, cannot be prevented to any measurable degree by a protective coating. Checks in your logs serve as a water trap and areas around them are susceptible to wood stain erosion and even rotting. Checks in the upper curvature of the logs are most serious since they tend to accumulate and hold more water than cracks along the bottom half. The most severe checks, those facing upward, should be remedied immediately to prevent log damage and preserve the life of the coating.

Other items of note during your log home inspection include spots where the wood stain starts to look drab or shows signs of fading. That means it might be time to recoat your home. Discolored logs can be an indicator of water stains or fungus. Nearby wet spots can identify the culprit, whether the excess moisture stems from leaky gutters, poor drainage, or faulty plumbing.

One more notable concern is insects. From termites to carpenter bees, insects can prove to be a thorn in a log homeowner's siding, or just a minor nuisance. The best prevention against insect infestation begins with home design, and documents available from the Log Homes Council itemize some design considerations. While there are safe, preventive measures on the market, chemical treatments should be considered after other, more natural options. With enough foresight, the most trouble you will have from insects will be mosquitoes on your porch.



## Does Your Timber Make the Grade?

It doesn't take an expert to know that logs used for construction should be evaluated for decay, insect infestations, and other serious structural defects. It does take one, however, to detect and evaluate the natural characteristics of the materials used in the construction of a log structure. Without the trained eye of a certified grader inspecting each piece of timber used in log construction, log homebuyers run the risk of having their dream home built with inferior products that could lead to severe problems down the road.

To ensure the integrity of their products, all members of the Log Homes Council are required to participate in a certified log-grading program. In 1984, the Log Homes Council (then known as the North American Log Homes Council) was the principal participant in the development of the standard, detailing the methods to be used in grading structural log and round timbers. Standard D-3957, as listed by the American Society for Testing and Materials, is the foundation for log grading by the two agencies currently certifying graders in North America. Both the Log Homes Council and Timber Products Inspection Company provide training and certification for companies in the Council, and are themselves certified by the International Accreditation Service to meet ISO 10720 standards for third-party inspection agencies. Logs produced by Log Homes Council members have passed the stringent requirements of these several agencies on the path to the customer's log home.

In addition to evaluating logs for the more obvious defects listed above, certified log graders also

determine the structural capacity of logs by measurement of the slope of the grain, knot size, type and location, as well as other natural growth and manufacturing characteristics that affect the logs' ability to withstand vertical and lateral stresses.

Use of a technical grading system to rate the structural capacities of logs used in construction is a principal measure of a log home's integrity. Building a home constructed with certified, graded logs is the safest way to ensure that your log home passes inspection and will withstand time and the elements. Homes built without graded logs, in addition to possibly not meeting standard building codes, are dangerously unregulated and should not be considered as an option in log home buying.

Mandatory certified grading of logs is quite possibly the most important reason to choose a member of the Log Homes Council to build your new home. Log Homes Council members have pledged to provide you with the highest quality home, and certified log grading is the foundation for ensuring the security and quality you deserve.



## Paradise Calls in McCalls: Building Cross-Country Is Easy With A Log Homes Council Member

“We started going out to McCall, Idaho, fifteen years ago. An acquaintance, Bob Kemp, has a condominium out there. He invited us to stay with him for four or five days when I was pregnant with our first child. It was a lot of fun. We absolutely loved it. The next year when our daughter was nine months old, Bob insisted that we come back. In fact, our daughter took her first steps in McCall,” said Sandi.

“McCall is really cold. I remember there were other kids in the lake and our daughter was all bundled up in towels, but she kept crawling straight into the ice cold water up to her neck,” Sandi laughed.

“Every year as the family grew, we’d find ourselves heading right back to that cold, clear lake for our vacations. We’d rent a condominium or stay in one of the local hotels.” The Bromagens began to think about a vacation home and particularly a log home. Sandi chuckled, “It was silly economically. It was ridiculous. We lived too far away. We couldn’t spend enough time there. We weren’t sure we wanted to build there. Even if we want to build it, how could we do such a thing from Lexington? But finally, after talking for years and looking at other houses, we just did it.”

They met Bob Kemp’s son in law, the president of a Log Homes Council member company. They had seen pictures of some of the homes his company had built and liked them.

The Bromagen’s 4,300 square foot vacation house was completed in six months. The walls are 12-inch milled logs from Idaho and eastern Oregon.

There are five bedrooms and four baths.

It’s a three-level house with three children’s bedrooms on the top floor. There are two baths on the same floor. The main floor contains the great room with a full masonry fireplace and adjoining deck, kitchen, dining room, and master bedroom. The master bedroom has a spacious walk-in closet, bath, and exit to the deck.

The lowest level has a guest room and bath, a large recreation room, and a laundry room. “My favorite room is the kitchen,” says Sandi. “The kids all come in from playing outside and sit at the counter with their hot cocoa.”

With any vacation home, it is the personalized amenities that define the home. In addition to a cozy retreat, the Bromagens’ log home is a place to entertain and host family gatherings. The 320 square-foot kitchen with built-in wine refrigerator has ample room for cooking and preparation and, with its abundant windows, offers views of the woods, public beach and the lake.

The front of the house facing the lake is all windows, especially on the middle floor where the dining room, kitchen, and great room are located. The fireplace stretches up two floors into their son’s room and was built with Salmon River rock. “We actually use the fireplace on our summer holidays, especially when it’s cold and rainy,” Sandi explains. In the coldest weather, the electric heating system is turned on.

Despite the dramatic windows, the home is very warm. The 12-inch logs, coupled with thermal insulated windows, provide excellent insulation.

Though their vacation retreat is over 2,000 miles from their permanent residence, Sandi and Glenn were comfortable building a milled home across

the country because they had great confidence in their Log Homes Council member. Sandi advises people who are looking for a building contractor to consider more than his workmanship. “You also need rapport. You have to feel comfortable with him and trust his decisions, especially when you are far from the building site.”

Most of all, Sandi and Glenn learned that building a vacation home, however impractical it seemed, was attainable. They advise: Find the site. Find the builder you trust. Then choose the plans that fit your dream. And, in the words of Eleanor Roosevelt: “The future belongs to those who believe in the beauty of their dreams.”

*Adapted with permission from Country’s Best Log Homes.*

The Log Homes Council would like to thank the following member companies for their efforts in producing “**The Log Home: An American Dream.**”

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