

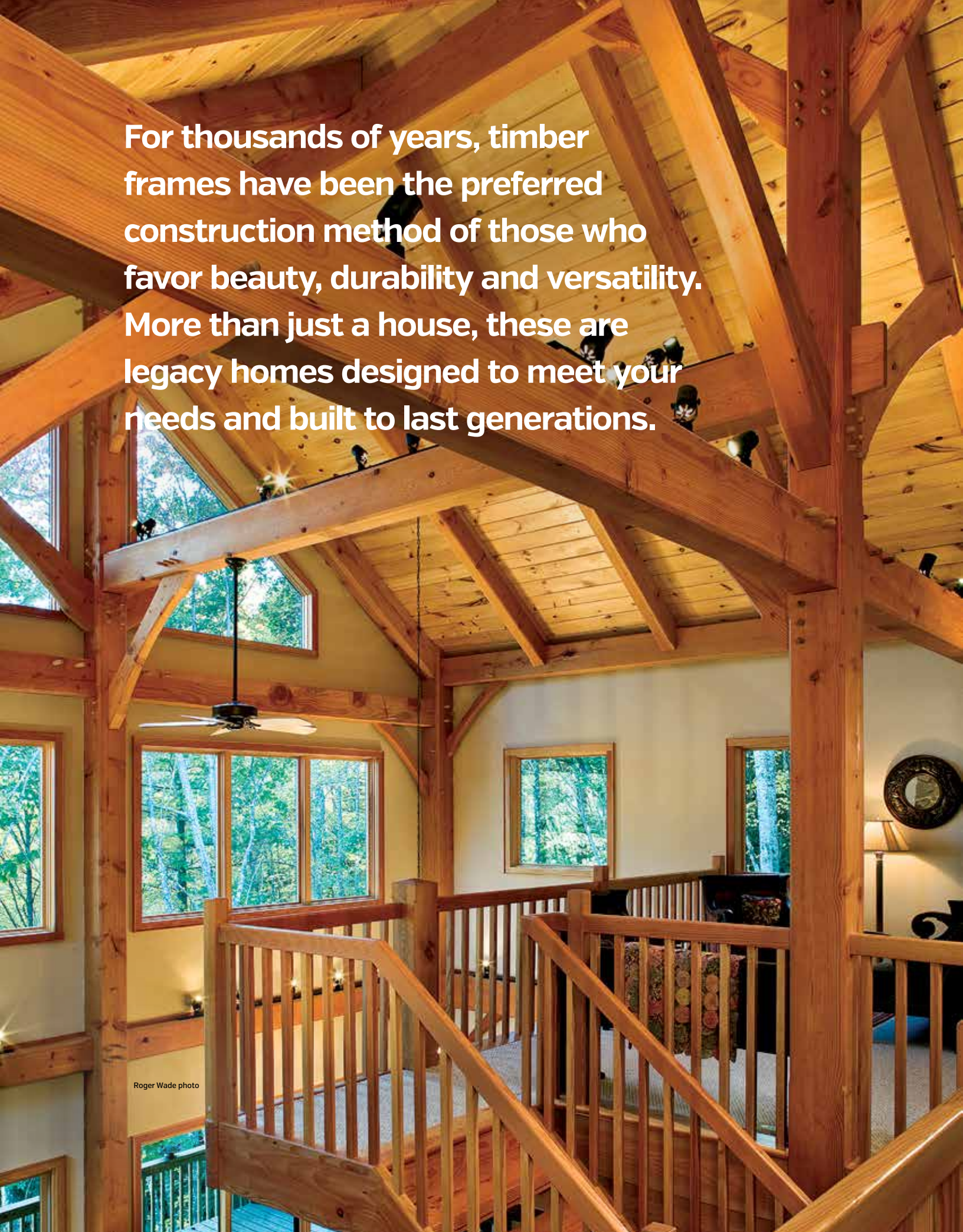
**TIMBERCRAFT**  
BUILT FOR LIFE.

**TIMBER  
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# THE ABCs OF TIMBER FRAMING

We're here to help you with the what, the why, and the huh?



A large, multi-story timber frame house with a high ceiling, wooden beams, and a staircase. The interior features a prominent wooden staircase with a railing, a ceiling fan, and several windows offering a view of a forest. The structure is built with heavy wooden beams and rafters, creating a warm and rustic atmosphere.

For thousands of years, timber frames have been the preferred construction method of those who favor beauty, durability and versatility. More than just a house, these are legacy homes designed to meet your needs and built to last generations.

Roger Wade photo



Timbercraft's goal is to help you create a place that is built for your life. From what it is to how it's done, here's what you need to know to begin your timber home journey.

## WHAT IS A TIMBER FRAME HOME?

The most common misconception the public has about timber frame homes is that they are the same as log homes. A timber frame is NOT a log home and the key difference is what's going on inside. A timber home could look like a country Victorian, a lake side vacation home, or a picturesque mountain chalet - a timber home is defined by its exposed interior timber structure.

## WHY TIMBER IS BETTER

**Maintenance.** Any wood left outside, from a 2x4 to a log, is going to have some level of perpetual maintenance. Timber frames solve this problem by keeping all timbers inside. Even if you live in the most remote area, the only maintenance you'll need to worry about on your wood is mopping up muddy footprints and man-made wear and tear. With proper maintenance, a timber frame structure won't last a couple decades, it will last hundreds of years.

**Freedom of choice.** With timber homes, not all finishes have to be wood. Drywall, stone, colors; the key thing to remember is that timber frames are designed to provide the frame of your home. When it comes to your walls and ceilings, you're not tied to wood and are free to use anything you can dream of!

**Hybrid.** A fusion of timber with other non-wood materials has become increasingly popular in recent years because it makes timber framing accessible to any budget, why waste money timber framing a closet or laundry room. Focusing on

high-use areas helps to cut down on costs down the road.

## WOOD THAT YOU COULD USE

Let's move from the why to the what: the various wood species options for your home. There are several species and drying methods available with pros and cons, both aesthetic and structural, for each. Keep in mind that where you build may influence the type of wood species you can use. That's one reason you won't see the exact cost of a timber frame home on a company's website - every project depends on individual geographic and climate factors.



### DOUGLAS FIR

- The original
- Enormous logs, close to 6 feet in diameter
- Though soft, is actually the strongest wood
- Most come from the Oregon coast. Shipped to the desert to air dry and "cook"
- Clean and untwisted timbers - good for grand arches



### OAK

- Midwest wood
- Great for rustic look
- Beams will check and twist,

which doesn't affect structural integrity, but offers an alternative aesthetic appeal

- Double the weight of Douglas fir
- Second strongest (will bend/deflect a little bit sooner)



### PINE

- Midwest wood
- Most economical but is not as strong
- Won't work with heavy snow loads
- Almost always built "green," as in recently harvested. Makes the most accurate joinery



### CEDAR

- Mostly comes from Canada
- Being an import, it's more expensive
- Very pretty but also one of the weakest wood species
- Used mostly for tongue and groove, shingles etc.

Last but not least - and definitely most expensive - is reclaimed wood. These are timbers that have been repurposed from an existing structure and are the most expensive. Someone had to go and literally tear down an existing building. You'll need approximately 15-20% additional extra wood because some will be



disqualified due to rot. Also, reclaimed wood requires more production time due to “mapping” which is the alignment of beams that have twisted over hundreds of years. Some reclaimed timbers were cut in the 1800s when measurements weren’t as precise, so different sized ends need to be manually adjusted. Reclaimed takes longer to lay out, but it is exceptionally pretty.

## COMING TOGETHER - IT’S ALL ABOUT THE JOINERY

One aspect of timber homes that truly makes them like a work of art is the way in which these massive timbers fit together so elegantly. Housing joints in a pocket makes them technically more secure and are also aesthetically prettier. Remember: If it’s not tight, it’s not right.

There are two methods of joinery for timber frames:

**Post & Beam.** Metal fasteners are either hidden inside the timbers (slotted) or exposed (through steel plates). This method is remarkably sturdy and therefore highly recommended in the west, where seismic activity is common, and in the mountains or other areas with heavy snowfall.

**Mortise & Tenon.** Sometimes referred to as “true timber framing,” mortise and tenon involves the more traditional method in which a wooden tenon (outie) is fitted into a mortise (innie), holding the structure together.

Since a wooden peg costs \$2 and a steel plate costs \$40, mortise & tenon is more economical, while post and beam is more secure.

## “Timbers”

Though they look sturdy, “timbers” are beams that serve no real structural purpose. In secondary rooms such as an office, playroom, or den, they can provide that cozy timber frame feel for a fraction of the budget. Consider adding them to the hybrid areas of your home.

Roger Wade photo



## DESIGN

Timber frames are loved by both builders and homeowners because they're customizable, making it easy to bring what's in your heart to life. At the heart of that customization is a sense of balance.

Timber homes have two sources of cost: production time and wood. Certain design considerations will increase production time, so you'll want to balance all options against your budget. A full timber home is very rare, and a hybrid home allows you to focus the timbers on the most important areas of your home.

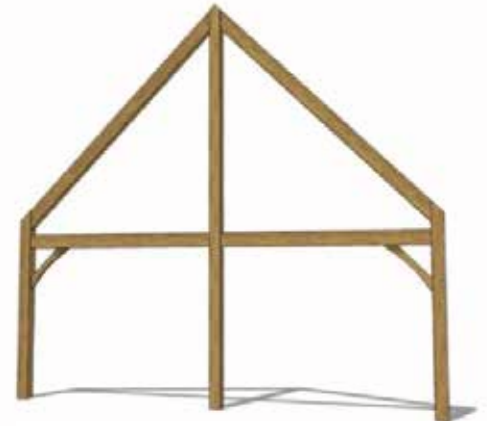
## KNOW YOUR TRUSS

Here is an overview of basic timber bents, or structural networks of timbers:



### QUEEN POST

- Clear span, but with four more joints
- Additional joinery makes it more expensive
- Can apply to designs that require 24-30 feet



### 3-POST

- Not a clear span, due to middle post
- Supports designs as wide as 34 feet



### SIMPLE

- Very straightforward with minimal joinery
- Clear span, which means there's no post coming down the middle
- Useful for designs 15-18 feet wide



### KING POST

- The oldest style of truss, also the strongest
- Supports the ridge with side struts to support rafters
- Very customizable: can arch the bottom beam, add struts, whatever you want!



### 4-POST

- Not a clear span
- Posts are spaced conveniently apart
- Can support designs 40 feet wide



### HAMMER BEAM

- Clear span
- Can handle heaviest loads
- Virtually no limit to how wide they can go, over 50 feet

The best part: all trusses can be mixed and matched to fit your vision. These classic examples are just the beginning. Flip through a magazine, like *Log & Timber Home Living*, for ideas on the kind of truss you want.

## THE JOB SITE

Before you go down the road of building a timber home, it's important to make sure your build site has everything it needs to support construction – like an accessible road. All materials will be shipped on a 48-foot semi-trailer and most frames require a crane to lift your beams into place. Remote job sites can have materials shuttled in from a local lumberyard.

Be sure to show the intended site to your timber manufacturer. From making sure the land is solid to ensuring heavy machinery will have the ability to operate, it's important to keep your whole team in the loop.

## HOW TO GET STARTED

The end of this walkthrough marks the beginning of your journey. Now that you know the what, how, and why of timber framing – here's what you need to know for getting started.

Every timber frame manufacturer will have stock floor plans. However, under 5% of homes built are exactly a stock plan. Use them as jumping off points. Even a fully custom timber frame will take 6-9 months to construct. Once the frame arrives on site, it only takes days to erect. Everything is assembled and disassembled in the shop several times before shipping to ensure accuracy.

When speaking with your timber manufacturer, they'll need to know the exact county where you plan to build so they can size the timbers and organize all the required codes.

For more information, reach out to the President and CEO of Timbercraft, Bob Sternquist, at [Bob@timbercraft.com](mailto:Bob@timbercraft.com).

## A Method as Old as Time

Timber Framing is the oldest documented form of construction in the world. In the Old Testament, King Solomon hired the Sidonians to provide timber for his temple (1,000 BC). Any structure built prior to 1860 is a timber frame or post & beam building. Walk into any Old-World church and look up; without a doubt you'll see some variation of a King Post truss holding up the roof. After this period, timber framing took a step back due to the mass production of 2x4s and the square-head nail.



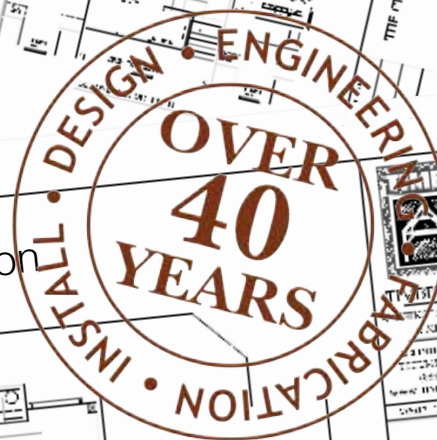


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The Clarkston



## What style!

Wrap-around timbered porch in the front, wrap-around deck in the back, hammer beam entry, all before you enter the front door. Inside, the plan features a formal foyer, first floor master suite, timbered great room, kitchen and nook, a nursery / library and an attached garage. The second floor features two additional bedrooms, a loft area, open connecting bridge and a huge bonus room over the garage. At 2,025 square feet of living space, this plan's elegance is outdone only by its efficient use of space.

- Design
- Full Project Cost Analysis
- Engineering
- Residential & Commercial
- Full Timber & Hybrid Designs
- SIPs - Structural Insulated Panels
- Complete Install Services Nationwide



Join us for a  
*Home Planning Seminar!*

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