BetterBuilt^NW

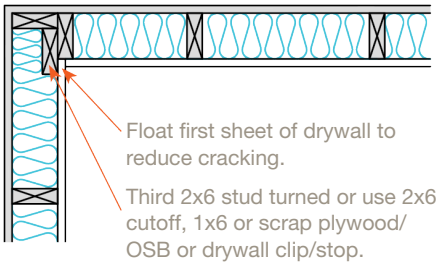
EMPLOY ADVANCED FRAMING TECHNIQUES AND BUILD HIGHER PERFORMING HOMES

Using advanced framing strategies can help builders improve wall construction, home performance, and potentially reduce project costs. From small changes to more substantial design strategy reworks, builders can draw from a variety of options to help improve framing outcomes.

RAISING THE BAR: UPGRADED FRAMING TECHNIQUES

The following strategies are a good starting point for builders interested in incorporating new framing techniques into their practices.

Incorporating framing design tactics like modified corners and insulated headers can improve thermal performance and allow for maximized insulation coverage. A **modified corner,** also known as a California corner, creates a solid corner while reducing lumber use and thermal bridging. This technique allows builders to install increased insulation deep into the corner of the wall assembly. Use **rigid insulated headers** over windows and doors to help improve the thermal barrier and overall comfort.



Source: EPS™ Field Guide

Rigid insulated headers over windows and doors can increase the R-value of assembly.

Source: EPS Field Guide

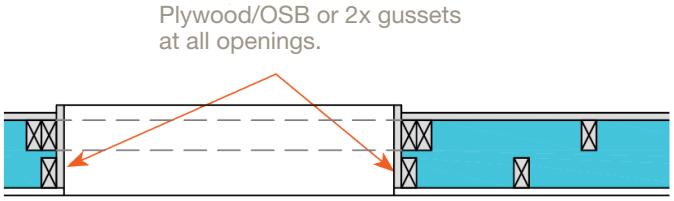
Raised-heel (or energy-heel) trusses support greater energy performance of the roof and attic assemblies. Because raised-heel trusses are positioned higher than conventional methods, they allow for the full depth of insulation to be installed throughout the entire attic space, avoiding reduced insulation volument or compression at the edges.

TAKING ENERGY PERFORMANCE TO THE NEXT LEVEL: ADVANCED FRAMING STRATEGIES

The following strategies have added complexity and can help builders achieve even greater results:

Adopt **24-inch-on-center wall-framing** to help further improve home energy performance. Compared to the standard 16-inch-on-center approach, 24-inch-on-center spacing results in less thermal bridging and increased wall R-value. This spacing also aligns with common sheet good sizing, which can help cut down on waste.

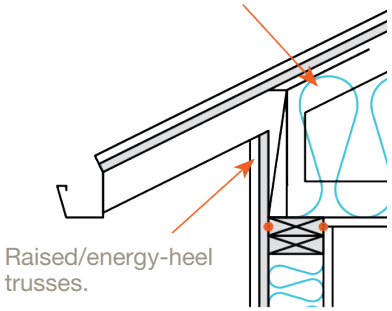
Staggered stud wall framing is a technique where studs are placed alternately on each side of the wall, not directly opposite each other. These types of walls have wider top and bottom plates than usual. Since studs do not touch both sides of the wall, this technique creates an acoustic break. Wall insulation wraps around the studs, creating a thermal break to reduce heat transfer, improving energy efficiency, and increasing sound dampening.



Interior studs may be placed at 24 inches on center independent of exterior studs and as convenient for interior wall sheathing.

The **ladder T-wall technique** leaves space for insulation behind the T-wall stud and saves lumber while providing a surface for builders to attach drywall. Instead of using three studs to complete a T-wall, builders can run lumber horizontally between external wall studs.

Raised/energy-heel trusses allow more insulation to be installed at the exterior edge of the ceiling than standard trusses.



Source: EPS Field Guide

Compared to the standard 16-inch-on-center approach, 24-inch-on-center spacing results in less thermal bridging and increased wall R-value.

Source: Building America Solution Center

The ladder T-wall technique allows space for insulation and saves lumber.

Source: Building America Solution Center

The **stacked, or in-line, technique** aligns all framing members directly above or below one another so that loads transfer directly downward. This technique reduces framing member redundancies and, in some cases, can also facilitate the use of a single top plate.

OPTIMIZED FRAMING STRATEGIES: ACHIEVE GREATER EFFICIENCY WITH PRE-CUT LUMBER PACKAGES

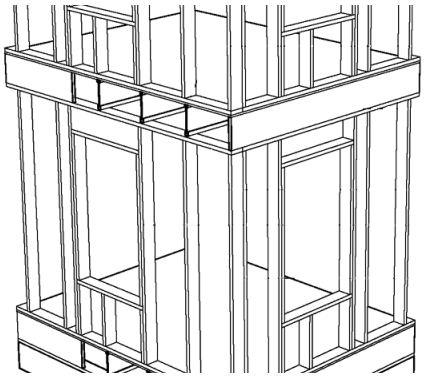
Using pre-cut framing packages in combination with advanced framing techniques can help builders save on labor and material costs, increase jobsite safety, and achieve higher energy performance in the homes they construct. READY-FRAME® and Opti-Frame® provide exact framing members and lengths necessary for projects, package the lumber in order of need, and label each piece to minimize mistakes during installation.

This approach can help increase efficiency on the construction site by eliminating time spent measuring and cutting. Opti-Frame claims builders who go with pre-cut lumber packages can complete projects 30% faster and help them stay ahead of schedule. As a best practice, consider including a team training in the building process before using these materials.

BETTER FRAMING APPROACHES, BETTER PERFORMANCE OUTCOMES

Adopting advanced framing strategies can result in increased capacity for insulation, reduced thermal bridging, lower material and labor costs, and less waste. For more high-performance design inspiration and strategies that help Northwest builders exceed residential energy code, check out these resources:

- Bend-based builder focuses on affordable, above-code homes (Case Study)
- Go above state energy code with these creative building strategies (Case Study)
- APA - The Engineered Wood Association: Advanced Framing (Resource)



The stacked technique aligns framing members one on top of the other so that loads transfer directly downward.

Source: Green Building Advisor (via Building America Solution Center)

Pre-cut framing services save builders time.

Source: Builders FirstSource (Images by Jesse Holland)

Each piece of lumber in a pre-cut framing package has a label, helping to minimize mistakes during installation.

Source: Builders FirstSource (Images by Jesse Holland)

Learn more about high-performance homes at **BetterBuiltNW.com/resources.**

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