optimum value ENGINEERING

BEST PRACTICES

New framing techniques and strategies have evolved that can improve a home's energy efficiency and durability, while reducing construction costs and maintaining structural integrity of the building. Optimum Value Engineering (OVE) describes these techniques.

By optimizing the amount of lumber used to frame homes, more space is created for insulation in exterior walls. Consequently, cold spots, which are susceptible to condensation, and mold growth are eliminated. According to the Partnership for Advancing Technology in Housing (PATH), material cost savings of $500 for 1,200 square foot homes and $1000 for 2,400 square foot homes can be realized. Additionally, labor savings are estimated at around three to five percent.

Builders across the country are experimenting with new OVE techniques. Although these practices are recognized by local building code, it's important to educate local code officials on new practices in order to gain their understanding and approval.

Common OVE techniques that builders are experimenting with include:

- utilizing two-stud corner framing with inexpensive drywall clips
- increasing floor joist and rafter spacing to 24 inches
- eliminating headers in non-loadbearing walls
- increasing stud spacing from 16 inches to 24 inches
- using single top plates with in-line framing to transfer loads directly

Carefully considered and communicated to the framing trades, OVE techniques can do wonders in the process of increasing the performance of homes and decreasing material cost. But, if due diligence isn't paid to changes in framing at the design phase, and changes in practice are either incorrectly communicated or followed by the trades, headaches will result.

For this reason, many builders choose to adopt an incremental approach, where a small number of techniques are initially used. As these techniques are perfected, others are introduced. This method allows trades to learn new practices without becoming overwhelmed, and allows the builder to evaluate and address issues quickly to avoid replicating them in mass production.

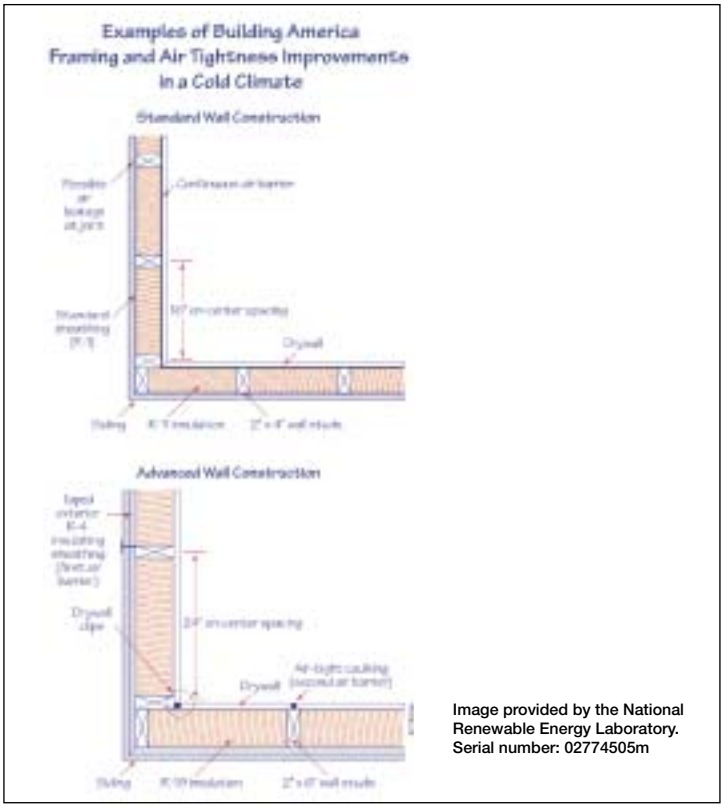
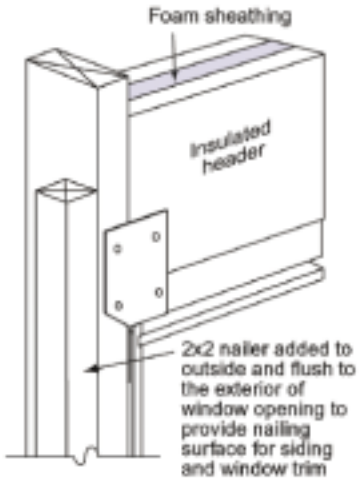
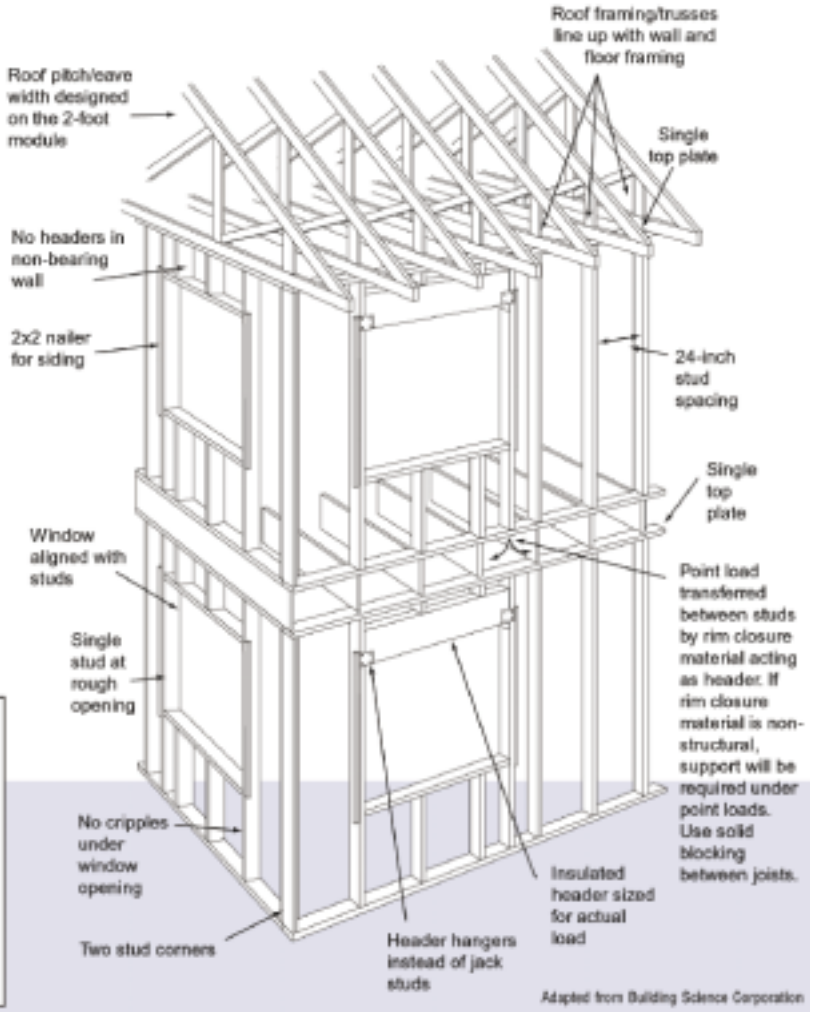


Image provided by the National Renewable Energy Laboratory.
Serial number: 02774505m

These diagrams illustrate advanced framing practices and are courtesy of the Department of Energy's Building America Program.
www.buildingamerica.gov

STACK FRAMING DETAILS





- **MODIFIED HEADER AND WINDOW OPENING**
  Reduced waste and increased insulation can be achieved by supporting an insulated header with hangers and by nailing surfaces for siding scabbed toward the outside edge of studs.