Light Wood Framing for Energy Efficiency and Economy

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The Key Ingredient
Communicate!

Make sure every person involved knows the plan, especially where it’s “different”
Framing
Places that matter, places that don’t

roofs

walls

foundation
But always:
1) Insulate – complete the thermal building enclosure
2) Especially slab edges . . . somehow.
3) You don’t need pressure-treated wood if using an air-sealing membrane
roofs for energy efficiency and economy

trusses
easy to frame = inexpensive
easy to ventilate and insulate
easy to install and modify

cathedral
harder to frame = expensive
no ventilation = less durable
trickier to insulate cavity
roofs for energy efficiency and economy

simple = good

complex = not so good
plan layout for energy efficiency and economy

simple = good

complex = not so good

ideal!
Framing
Places that matter, places that don’t

Why efficient framing?
Why efficient framing?

35.5% Framing Factor
(2014 Sacramento Home)

12.5% Framing Factor
• studs must align under supported framing above
• fewer studs for better insulation but weaker wall

No Exterior Wall Framing At Intersection
• studs must align under supported framing above
• fewer studs for better insulation but weaker wall
stud at 24” on center

Drywall clips – no wood drywall backing
• Less lumber
• Less labor
You can use studs at 24” with a new kind of cellulose insulation . . .

straw bales
single top plate

single continuous top plate of laminated strand lumber

single self-tapping screw rather than metal ties
light gauge metal “T” and “L” straps connect plates

Install inboard of outer edge to avoid conflict with truss blocking
single top plate

this is a big one

shrinks $\frac{1}{4}''$ to $\frac{3}{4}''$
single top plate

no shrinkage

shrinks ¼” to ¾”
Align framing over studs

Align & size openings with studs
“raised heel” truss leaves room for insulation

Header – if needed – screws to inside to allow batt installation

“Box” beam
Pre-drilled studs
Cut them while still bundled to save time and force utility lines to base of wall where they don’t interfere with batt insulation
George’s tips
thanks to George Koertzen / H4H

Drywall
You don’t need to cut it to fit studs – splice with scraps & screws where edges meet between framing
in review
Questions?