

Wall Assembly Questions

Goal:

Decide on *general* wall assembly approach so that I can calculate *framing dimensions* to move forward on floor plans and foundation plans – *How thick will the wall be?*

Considerations:

2x4 double-stud framing

-- or --

2x6 framing with exterior insulation

-- or --

2x6 framing with ZIP R-Sheathing

Questions:

What is least complex (fewest layers?) to frame/build -- lower total labor costs?

Given that the house itself is very small and it will have double-pane (but high-efficiency) windows, are double-stud walls overkill?

(Realistic) House Assumptions

Two-story rectangular house

Footprint about 32' x 23' (1,000 – 1,100 square feet)

Wood stove and ASHPs. No solar in first few years.

Double-pane casement and fixed windows
(high-efficiency double pane)

Average glazing ratio

Careful but *not perfect* air sealing effort

Okay with *some air leakage* because I'm not a huge fan of constant mechanical ventilation

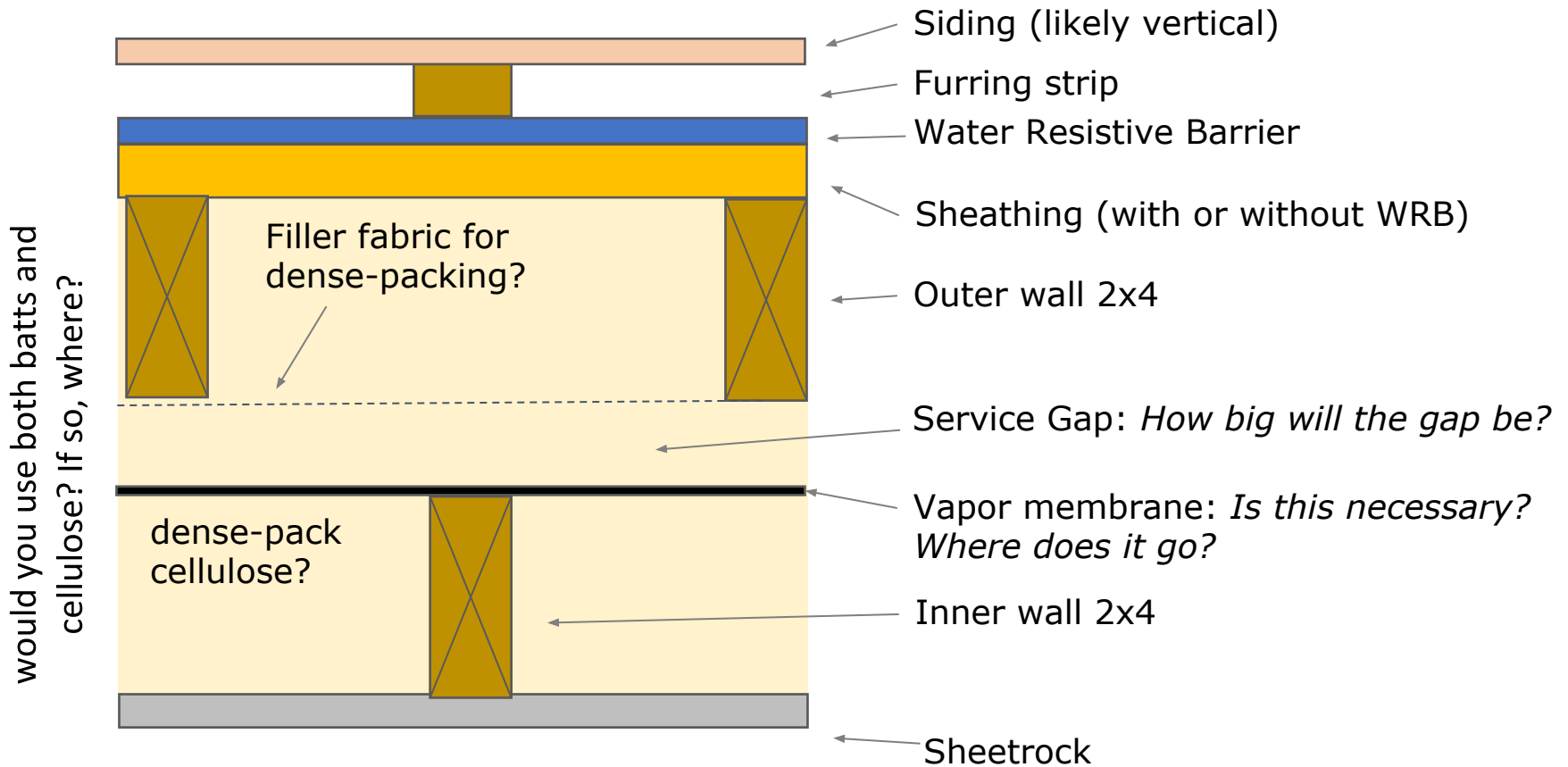
All labor **paid** at market rates - Not DIY

Climate zone 6
(Maine)

Wall R-value goal of R-30 to R40 -- Not looking for huge R-value considering the windows aren't triple-pane and *I know it won't be sealed perfectly*

Is this "correct"? Which of these layers is not necessary?

Double-Stud Layers

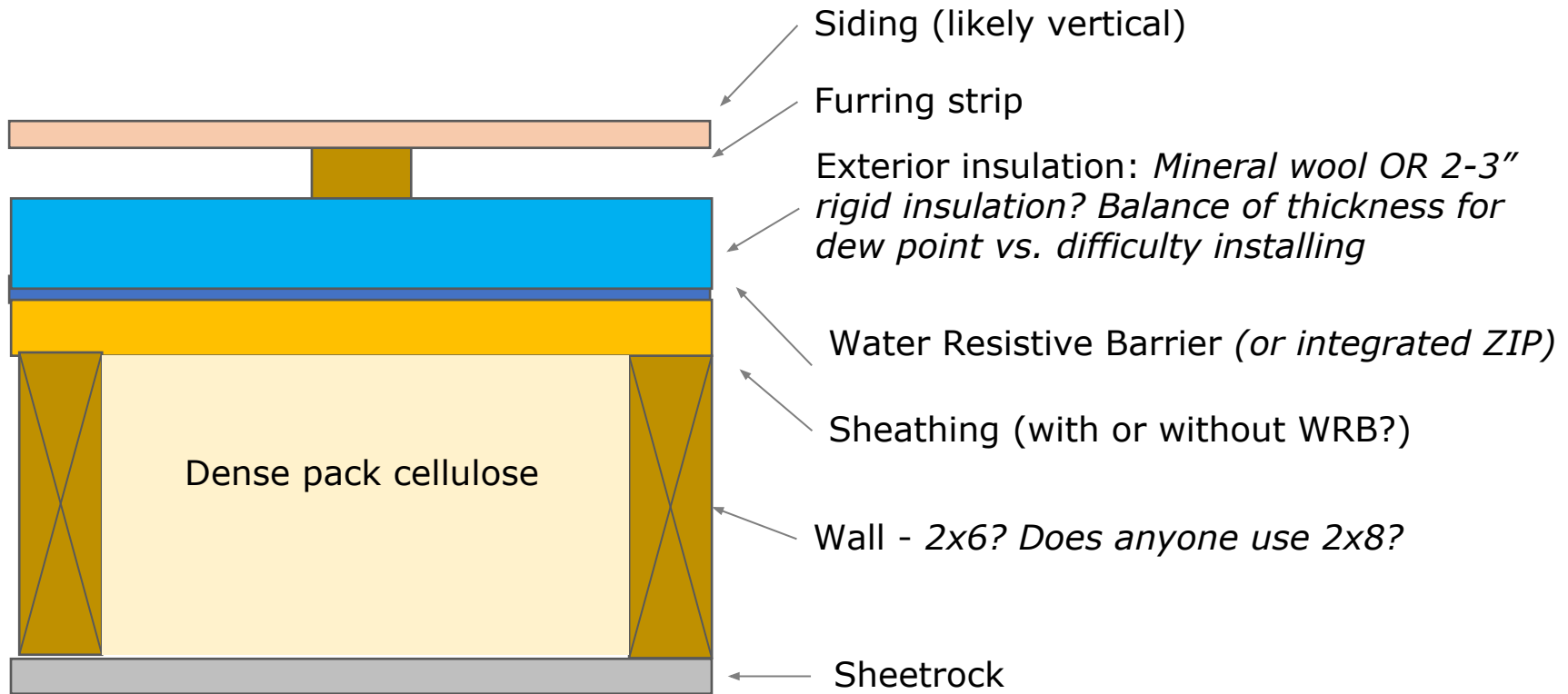


2x with Exterior Insulation Layers

Is this "correct"?

Which of these layers is not necessary?

What am I missing?



2x with ZIP R-Sheathing

Face insulation inward with ZIP-R

Besides condensation concerns
- Are other layers needed?

