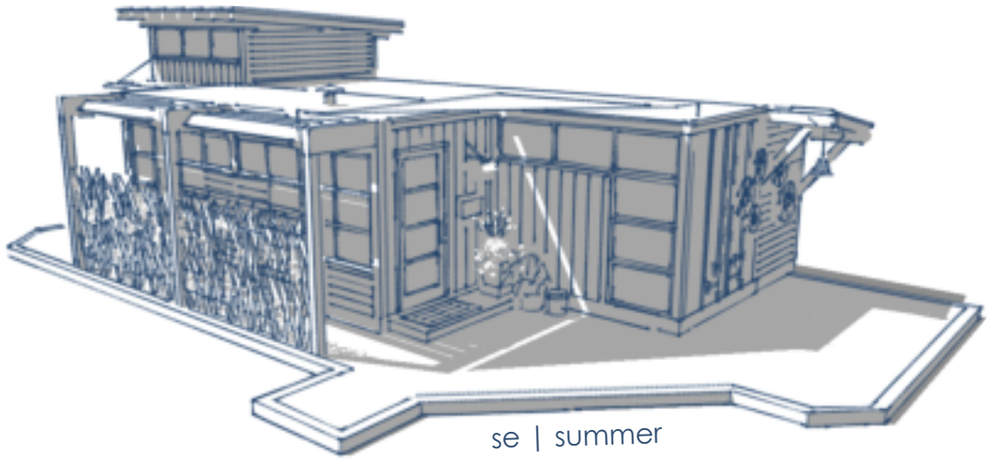
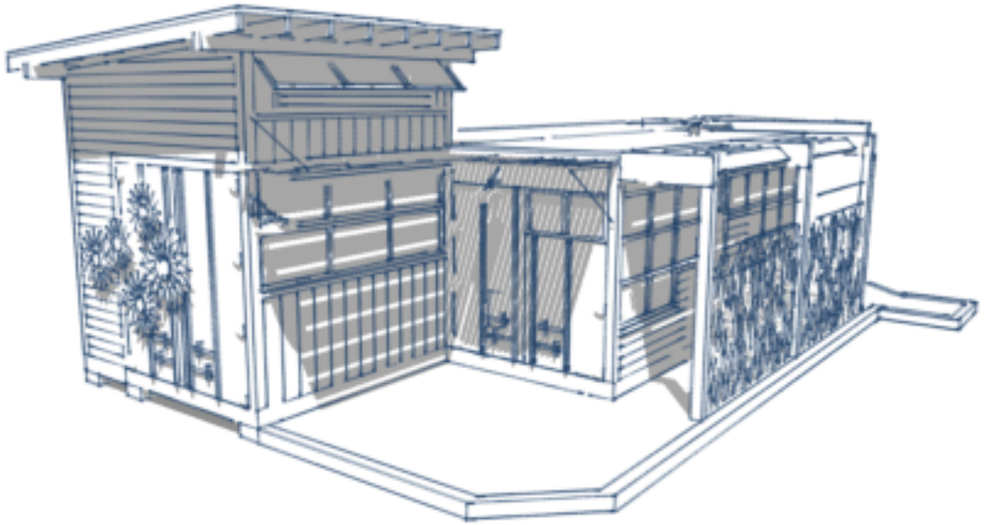
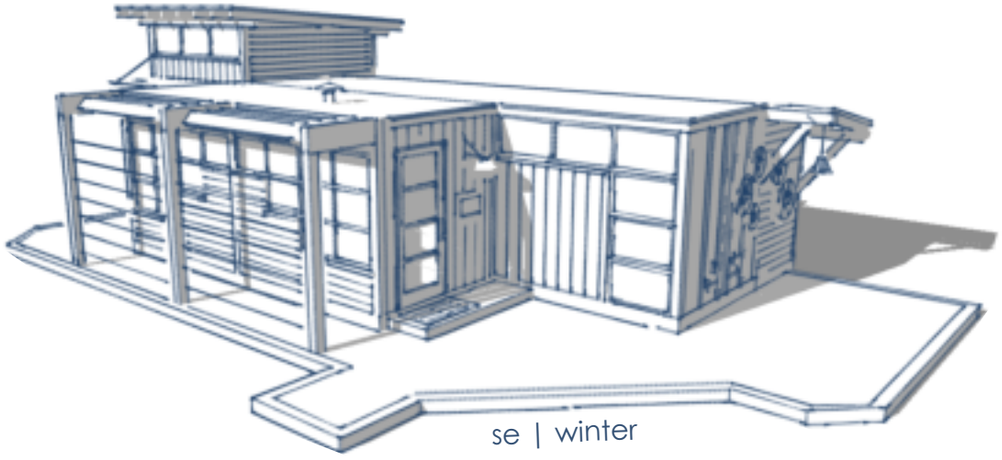


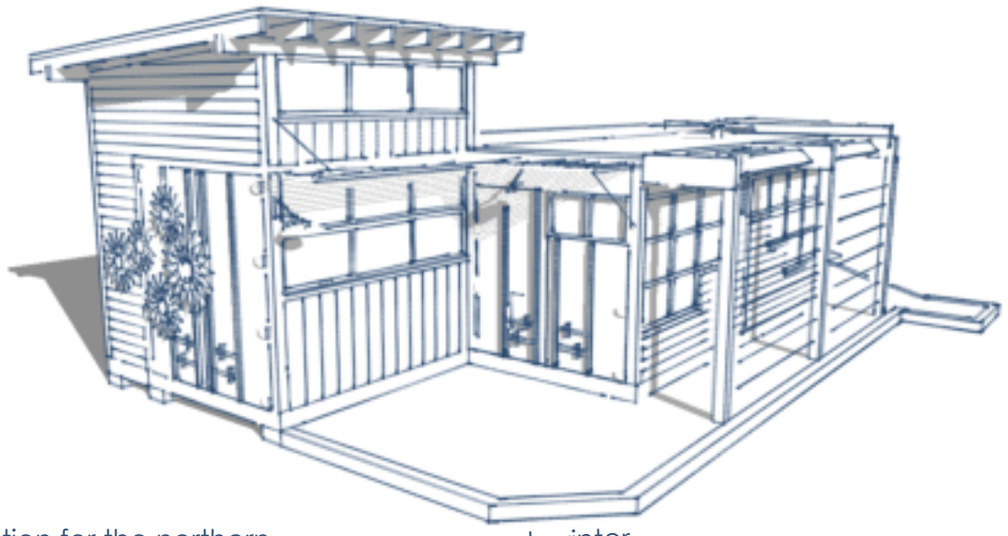
se | summer



sw | summer



se | winter



sw | winter

passive solar orientation

these schematics illustrate proper solar orientation for the northern hemisphere: the long axis of the bldg lies on the e-w axis; most windows are placed on s. facade. note that the s. face is shaded in summer (top), but fully exposed to the sun in winter. this has significant impacts on energy consumption and occupant comfort.

see sheet 2 for sections and details.

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passive solar features
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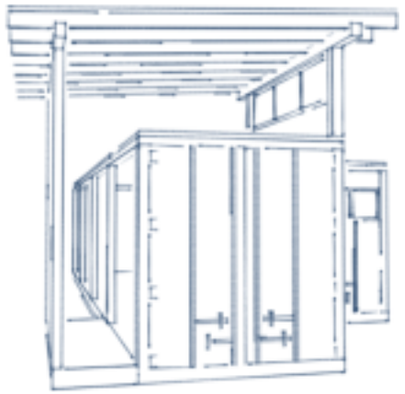
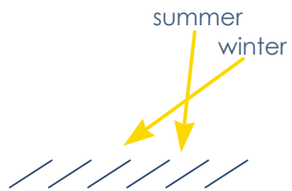
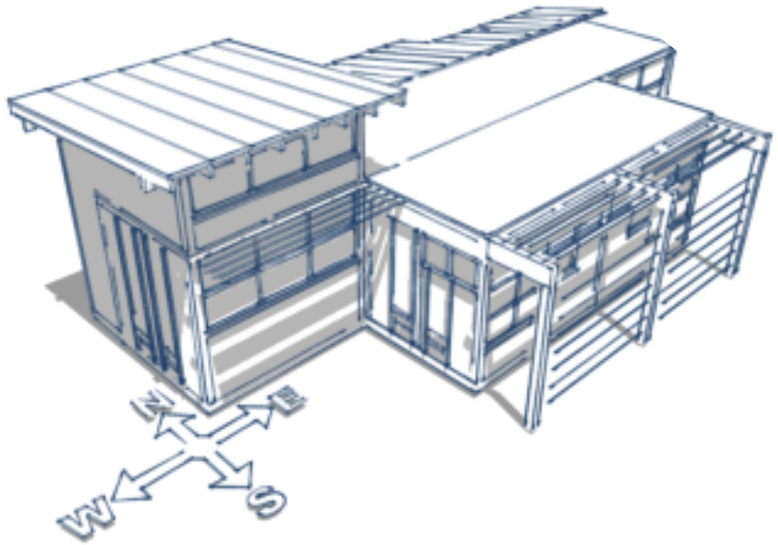


container / framing detail



awning design

louvers are angled to block high summer sun, permit low winter sun



passive solar design

utilizes the sun to heat and cool the building. the keys to the technique include:

building orientation to the sun

window placement

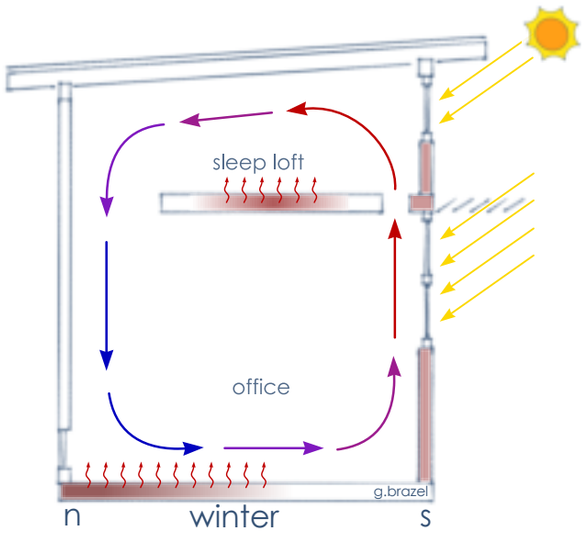
mass heat batteries in walls and floors

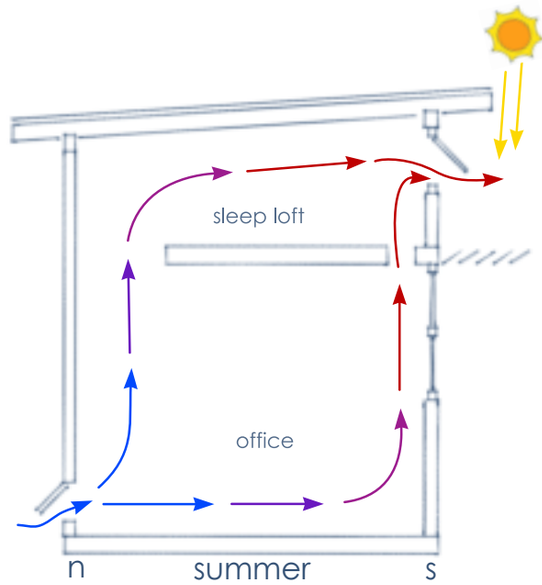
colors (dark/light for heat absorb/reflect)

shade (overhangs, awnings, blinds)

tree placement; eg. (in n. hemisphere) deciduous trees on the south exposure block summer sun, but allow winter rays to reach the building; evergreens to the north and west will buffer against winter winds.

other features such *air locks*, *solar chimneys* and air vents to optimize air flow and drafting.





orientation and air circulation detail

these sections illustrate proper solar orientation and placement of windows, vents and louvers. note that winter sun (L) enters the builing's south facing windows, but is blocked in summer by properly sized overhangs and awnings. see also the vent at lower left in the diagrams; it is placed low on the north bldg face to pull in cool air in the summer opposite the high window on the south, setting up a natural convection current that draws out hot air while pulling in cool.

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