

## Tips to Renovate Right

*If you are adding an addition, remodeling extensively, or building a new home, use these “builder’s tips” to maximize your investment, minimize maintenance, and keep your home healthy.*



### Pre-Construction Planning

- The success of a building project hinges on the pre-construction planning, when budgets and schedules are set, materials, sub-contractors and team are chosen, and, most importantly, the homeowner’s priorities are established.
- Hire an architect. Please see DLRees.com Resource page for a few we like, but we are always happy to work with your crew.
- To keep budget down, divide and conquer. Keep the remodel focused on one area of the house. The most expensive words ever said in construction are “While you are at it.”
- For fixed cost pricing, try to define as much of the project specifics as you can. For example, paint type and manufacture should be specified, but colors can come later.
- Green Tip - Before remodeling, test for asbestos vinyl flooring and lead base paint on windows and trim, especially if home-built before 1978.
- Call us for pre-construction planning – We are specialists in this area. We can advise you on costs as the architect draws up plans. Doing price checks as design proceeds keeps the project from going over budget before it is begun!

### Framing

- It is frequently less expensive to frame within existing walls, than to take the old structure completely down. Sometimes old framing can be cleaned up and reused. We are experts at weaving new framing through old walls!
- Green tips:
  - Engineered floor joists squeak less and make flatter ceilings.
  - 24” wall stud spacing allows for more insulation.
  - Wood scraps can be recycled.
  - Roof trusses cost less than dimensional lumber.
  - Specify local and sustainably grown forest products.
  - For a quick view of advanced framing see Joe Lstiburek, Ph.D., P.Eng., Fellow ASHRAE, article in Fine Homebuilding: <http://www.buildingscience.com/documents/published-articles/pa-future-of-framing>

## Mechanical

*Before installation begins, walk through fixture layout with your tradesmen.*

### Electrical:

- Remove as much knob and tube wiring as you can. It is a fire risk and removing it will reduce your insurance bill and increase your home's resale value.
- Make sure your panel is up to code and can handle the new wiring.
- Green tip – Consider CFL light bulbs and Energy star appliances.

### Plumbing:

- Remove as much lead pipe as you can, and use an isolation joint between the old lead and new copper.
- If the old cast waste pipe has to be removed, be sure to wrap the new plastic waste pipe to reduce noise.
- Gas water heaters are more efficient than electric.
- Green tip – Be sure to consider some of the new water-saving fixtures, as well as solar hot water heating.

### Heating:

- Good insulation pays for itself by reducing the size of the furnace and monthly fuel bills.
- Use rigid duct work, mastic the seams, insulate the ducts – or better yet, keep the ducts in conditioned space.
- Be sure to clean existing ducts and tune up the old furnace.
- Green Tips:
  - If you have allergies, consider an electronic air filter or a ductless heating system such as in-floor heat.
  - Seal new ducts from construction dust and don't use until work is done.

## The Shell

### Insulation:

- Insulate, insulate, insulate! "Draft-stop" your home: 30+% of a home's heat loss occurs through drafts.
- Use foam board, placed outside exterior walls, for best insulation & draft stop.
- To reduce the chilly damp feeling, place vapor barriers in the basement and upper-floor ceiling, to keep moist air from wicking up through the house.
- Make sure mechanical chases (chimneys, plumbing pipes, electrical wires, etc.) are sealed as they pass through the basement and attic floors.
- Storm doors are very effective, especially if the door faces the south.
- Green Tips:
  - PSE offers home energy performance experts who can evaluate your home for heat and air tightness.
  - A well-insulated home requires good fresh air vents.

## Windows:

- On a large addition or new home, Windows can be a significant portion of the budget. Take the time to go to local window dealerships and look at the different window types and price points. They all have their pros and cons, but basically:
  - Vinyl windows offer the best insulation value for the dollar, but they cannot be easily painted. Vinyl production and disposal is also hard on the environment.
  - Aluminum windows offer 'green points' at a reasonable cost, with their new 'thermal break' design, paint free surfaces and good recycle content
  - Fiberglass clad, wood windows offer a good combination of price, insulation, paintable interior and durable exterior cladding.
  - Aluminum clad, wood windows are industry standard in quality, insulation, paintable interior and durable exterior cladding.
  - Nothing matches the historic look like real wood windows.
- Myth buster – Replacement windows rarely pay for themselves in energy savings alone. Consider rebuilding your existing wood windows and adding a storm window for better price point.



## Siding:

- “Most important rule of siding is - Top piece laps over bottom piece” – Joe Lstiburek. (Ph.D., P.Eng., Fellow ASHRAE, Principle, Building Science Corp.)
- In Seattle’s most exposed, wet and high wind areas, it is best to build “rain screens,” or a drainage plane behind the siding.
- Because water penetrates siding, there should be a building paper and flashing inspection before siding is installed.
- Green tips:
  - Fiber cement board siding comes with a 50-year warranty, and no trees were harmed manufacturing it!
  - The best way to insulate is to add a layer of foam board below the siding, on the exterior of the wall.

## Roofing:

- It’s best to strip and completely re-roof any areas where new work is done.
- Low-pitched roofs need waterproof membranes and built-up skylight curbs.
- Good ventilation at eaves and ridge helps shingles last longer and cools the attic.
- Inspect roofing paper, flashing and chimney pointing before shingling.
- Green Tips:
  - Asphalt shingles come with lifetime manufacturer’s warranties, and are full of recycled content.
  - Light-colored roofing helps keep attic from overheating in the summer.

## The Finishes

### Drywall:

- Make sure moisture content of studs is below 12% before insulation or drywall goes on.
- Use large sheets of drywall and adhesive for less “screw pops.”
- There are 3 levels of finish with different price points.
- Green Tip – Be sure to use and recycle drywall.

### Paint:

- I prefer to PVA exterior walls.
- Always look at 3'x3' paint samples on walls, in natural and ceiling lighting, with flooring before approving color!
- Green Tip - They make good water-based paints for trim now, no need for high VOC (volatile organic compounds) oil paint.

### Trim:

- See kitchen and bath galleries at DLRees.com for design ideas.
- Contemporary styling with precise alignment and no trim *costs more*.
- Green Tips:
  - Engineered mdf or finger-jointed wood works fine for paint grade finishes and saves money.
  - Support your local economy and use local door and cabinet manufacturers.

### Tile and Hardware:

- Order in advance!
- Countertops are a great place to get creative with ‘green products’ such as Icestone, recycled metal tiles, or salvaged materials.

### Flooring:

- Follow the manufacturer’s directions.
- Easy to clean, hard surface floors are more popular and healthier than carpet.
- Green Tip - Use water-based hardwood flooring finish.

### General

- Save some scraps for future repairs. It is hard to match old dye lots and styles.



For more in our “*Well Built*” series, visit the Resource Page at [DLRees.com](http://DLRees.com).  
Or, call us for a free consultation at 206-719-9566