

Selecting A Designer or Architect for Your Energy-Efficient Home

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If you've decided to move into an energy-efficient home, you'll probably need to have a custom design prepared. That's because it's hard to find second-owner homes and new speculation homes built for energy savings. First, you'll want to find an architect or building designer who meets your personal needs and provides quality work.

Why is professional help important?

A capable designer (the general term "designer" as used here includes both architects and small building designers) can provide plans that meet all building code requirements. This eliminates delays caused by the need for corrections.

A good designer will be able to point out such considerations as traffic flow, door placement, storage, conversational qualities of sitting areas, and more. Esthetic considerations such as style, rooflines, and use of glass areas should be included in a professional's design guidance.

Because solar heat is *not* just extra south glass, a designer preparing plans for a passive solar structure should properly balance solar aperture areas and thermal storage to house heating needs. Amateurs and do-it-yourselfers often overlook many of these considerations.

Several levels of design help are available

"Registered architects" are licensed by the State of Oregon after meeting requirements of education, experience, and a state-administered examination. Owners who want a distinct appearance for the home and help in overseeing construction often choose architects. Their fees are usually 10 to 15 percent of the construction cost.

"Building designers" are not state licensed and in Oregon may plan residential and agricultural structures of any size or

commercial buildings less than 20 feet tall and less than 4,000 square feet base floor area. Their charges are either a fee based on floor area of the house or a straight hourly rate. Construction supervision may be optional.

"Drafting services" often rely on the owner's design and provide drawings of the quality needed by inspectors, bidders, and subcontractors.

Some builders will take care of the necessary design work as part of their service. Check this possibility if you have already chosen a contractor.

Depending on the level of service needed, and the size and complexity of the house, professional services may cost anywhere from \$500 to \$20,000 for one house.

You sometimes can select standard drawings for floor plans from portfolios or catalogs for \$125 to \$250. Building materials suppliers and design services may have books or plans. Examine standard plans carefully to see if details such as electrical, plumbing, and heating systems are included. You will need a site plan prepared especially for your particular lot.

Making a choice

Here are a few ways to choose a designer:

- Talk to knowledgeable friends, professionals in related fields, and owners of completed homes that you like. Sometimes one or two designers will have an established reputation in a particular field such as solar. Activities such as solar tours or energy awards can identify local professionals related to particular projects.

- Interview your candidates carefully. Your final choice *must* be a person who is enthusiastic about your project. The designer creating your house should be working for you. An unfortunate criticism of some design professionals is that the house can end up being the designer's artwork, not the customer's home.

In evaluating potential designers, look for a cooperative attitude. If you feel intimidated or afraid to ask "foolish" questions, seek help elsewhere.

- Ask how long the professional has been in the business and in what capacity (residential, commercial, agricultural, or industrial construction).

- In what dollar range have past projects been done? It is prudent to work with people who are comfortable and experienced working within your price expectations. Be sure to tell the designer how much you're willing to spend on the house.

- If your energy-efficient house is to have solar features, ask the professional's background with solar energy. Some designers will seek engineering help on complex jobs, and others may have special training. *Many* designers claim expertise in passive solar but are relative neophytes. Be alert to common errors such as oversizing south glass, undersizing thermal storage, poor familiarity with incentive program requirements, and lack of basic energy-conservation features.

Does the designer prefer passive or active solar? Each has advantages and disadvantages. Your choice may well depend on budget, performance expectations, necessary manual operations, view considerations, esthetics, allowable temperature swings, and interior decoration requirements.

- What basic energy-conservation features does the designer specify? Few energy-efficient houses are built simply to minimum code standards. Typical minimum R values for saving energy are 38 in the ceiling or attic, 19 in the walls, and 19 in the floor. Triple glass is becoming more common. Include special features to control air infiltration.

How does the designer feel about items that strain the energy budget? Features that usually are energy wasters include skylights, recessed lighting, aluminum windows, unnecessary exhaust fans, long plumbing runs from the water heater, and using two water heaters.

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- If the dwelling is to have passive solar features, what philosophy does the design service have toward backup heat? No passive solar house yet has come close to providing 100 percent of the needed heat from solar in Oregon (if the house was maintained at temperatures most people consider comfortable).

- Get a list of houses designed by the firm and look at them. Be tactful and try not to impose on owners while checking out their homes. If you personally know any of the owners, be sure to ask what support their designer provided.

You may find that a particular style of housing is the "fingerprint" of a designer. Make sure you are comfortable with that style before beginning your own project.

- A designer should have knowledge of real estate market realities and an understanding of what is marketable, as well as liveable.

- Although fees are unlikely to be negotiable, you should be able to talk openly about the price of the services you are purchasing. Some consumers want only a set of plans drawn, while others want help choosing a builder, getting a road put in, managing the project, and taking care of power, water, and sewer. Make clear ahead of time what level of support you expect from the designer.

- Be sure to ask when completed plans can be delivered. A busy shop may need to meet other obligations before your plans can be started.

- Visit with builders that have completed jobs done by designers you are considering. Careful designers can minimize use of materials and labor by choosing suitable dimensions, rooflines, and plumbing runs, and will work harmoniously with builders.

- When your visit is complete, make sure you have confidence in your designer. There should be no doubt that all tasks can be completed on time, without any serious errors, and to your personal satisfaction. Be sure to visit your site with the designer.

Keeping costs down

As a consumer, you naturally want to minimize costs for design and construction of your house.

The key to making the designer's job quick and easy is to minimize changes. Before you meet with the designer, your family should assemble ideas on size, number of rooms, basic appearance, street access, exterior finish, interior finishes, and solar features. The less the designer has to guess, the easier the process will be.

Before you meet with the designer, have a definite budget in mind. Also, be prepared to answer the designer's personal questions about your family lifestyle.

There is a temptation when the service is provided at a predetermined fixed price to

"get your money's worth" by making liberal use of the professional's time. This approach can discourage a cooperative relationship.

While every last specification may be useful to the do-it-yourselfer, builders often say that "overspecifying" significantly increases the bids. Ask your designer to meet your particular needs.

Long visits, extended philosophical discussions, and redrawing plans are all expensive to the professional. Your help is needed if plans are to be delivered at a reasonable fee. If you feel the project will be unusually short, simple, and straightforward, it may be to your advantage to request a straight hourly charge (notice how this changes your attitude toward long visits, extended philosophical discussions, and redrawing plans).

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