

Alaska HomeWise: Ask a Builder

By CCHRC Staff

The Ask a Builder series is dedicated to answering some of the many questions Fairbanks residents have about building, energy and the many other parts of home life.

If you're going to build on permafrost, what things do you want to keep in mind when preparing the site?

Minimal site disturbance is the accepted practice. Often people want to scrape off all the trees, all the brush and everything else, and get down to clean dirt. This is typically what you do with good soils and it seems like the most appropriate practice because it's easier to work on, easier to put a road in, etc. However, it's typically the exact opposite of what you should do with permafrost soils. The trees and the groundcover are your best friend. They protect and insulate the ground from the heat of the summer. A great example is the green moss that you find in a lot of the low-level areas in Fairbanks. Moss has a high insulating value, and if you move some of that, you can dig down a couple of feet and a lot of that ground may be frozen in the middle of summer.

One thing that's common now with roads and gravel pads for foundations, is a layer of geo-textile fabric that goes down on top of the groundcover. The fabric comes in rolls about 12 to 18 feet wide and is designed to cover a roadbed. It's super tough, and when you put your tailings and fill down, it helps bridge irregularities in the ground and small areas where it settles.

One older, now less-used method is to take all the trees and groundcover from the site and stack it crosshatched in the roadbed. So you're getting your own, natural, inexpensive geo-textile fabric to support the road above.

When it comes down to it, clear only as much trees and ground as you need to. However, you'll have to balance that out with fire protection. Be aware of drainage. If you want to keep your home out of problem areas, build up high or some place where you are avoiding a natural gully or natural drainage.

Are solar hot water heaters worth the money?

If you're going to buy a solar hot water system and move out of your house in three years, it may not be worth it, but if you're looking at staying in your house for the next 20 years or so, then it could be well worth it. Also, there is also a currently a federal tax credit that will pay for 30% of the cost of a solar hot water system. To qualify, half of your hot water has to come from solar power, the other half can come from any other means. However, it does pay to do your homework, because the tax credits are always changing. For more information on that, visit the federal Energy Star website at www.energystar.gov/index.cfm?c=tax_credits.tx_index

Alaska HomeWise articles promote home awareness for the Cold Climate Housing Research Center (CCHRC). If you have a question, e-mail us at akhomewise@cchrc.org. You can also call the CCHRC at (907) 457-3454