



Choosing a Building Site

If you want to build a home in San Juan County you should probably start by considering which island to live on. Each of the islands has its own microclimate (rainfall being an obvious difference), distribution of flora and the fauna that lives there.

The last 150 years of settlement has also changed the landscape through logging, cultivation, quarrying and trade. You'll notice that Friday Harbor has developed into a bigger and busier town than Eastsound due to the location of its ferry terminal and the ensuing trade this brought, and by being the seat of county government, which generates more jobs.

The smaller islands have their own charm and attraction, but the increased costs of building, and the limited infrastructure, are not for everyone.

Even within the islands there is often a marked difference in rainfall, geology, soil, and flora. This has had an effect on the type of people drawn to each island. This can affect the type of house you might want to build, for example building with straw bale is easier in a drier climate, and the crops you might want to grow.

Your lifestyle also needs to be taken into account. If you have children in school, or if you need to commute to work daily, you might want to live nearer to town. If you live in town you might be able to walk or cycle to work, reducing the need for a car. A car is one of our largest expenses, and is also a major producer of carbon dioxide and many pollutants. If you can't eliminate your car then try to reduce the number you own, or use them as little as possible.

Once you have bought your land, there is the decision as to where to build on your site. If you have the luxury of time one idea is to live on your land for at least one full year before deciding where to build. This gives you time to watch the sun (and resulting shadows) on your land, feel the winds (especially the cold ones of winter), and notice the path of rainwater and where runoff pools.

If you decide to do this you'll need to document everything that happens: a notebook, wooden stakes and a digital camera are great tools. Document everything that you notice; where you can hear traffic noise (and

when), which parts of the site are in sun and which in shadow, and when. Is there wildlife habitat? A seasonal creek or runoff? You can use wooden stakes to mark these areas. A digital camera or video camera is also an effective way to record events as they happen – both also date and timestamp the pictures.

If you are really serious about your design you could also install a small weather station which will record rainfall, wind speed and direction, humidity, pressure and solar radiation. Many store months of data and can then download the data to a PC for processing. (I started my search at www.weathershack.com)

If you are going to build a passive solar design (where the sun naturally heats your house), or install solar panels for power or hot water, you will need to make sure that you position and orient the building correctly for optimal solar gain. One very useful tool for this is the 'Solar Pathfinder' (www.solarpathfinder.com). This tool can be positioned at any point on the site, at any time, and will show you the path of the sun at different times of the year, and how the sun is obstructed by tall trees and buildings on your site.

You can integrate your proposed design with your site map and perform analysis using software tools such as 'Sketchup' (www.sketchup.com) for visualizing your design and its relationship to the site. 'Solar Tool' enables you to analyze the solar performance of your design and 'Weather Tool' analyzes how the weather will affect it. Weather Tool will import weather data from many weather stations and can then use that to predict comfort levels. Both are from Square One Products (www.squ1.com).

People feel comfortable due to a complex relationship between the air temperature and humidity (the study of moisture in air is known as psychrometry). The psychrometric chart produced by 'Weather Tool' provides

a graphic representation of the state of the air under different conditions and this can be used to determine the heating and cooling loads needed to keep the occupants in the comfort zone - this is especially useful if you're using natural heating and cooling techniques.

Landscape architect Ian McHarg wrote 'Design with Nature' in 1969, in which he outlined a powerful technique for determining where to build appropriately. You start with a map of your site and draw your property lines.

Then on an overlay you draw your setbacks in another color. On the next overlay you define areas where you can't build - such as designated wetlands - and areas where you don't want to build (wildlife habitat for example). You could also map areas where you have good views. Finally by elimination you are left with the area where you can build.