

Be Informed Before You Build in Rural Colorado *

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I. Dreams Are Important

Once there was a family who dreamed of living in Colorado. After many years of hard work and saving, they were finally on their way to realize their dream. It took them a couple of days of hard driving to reach the state line. "Welcome to Colorful Colorado", the sign beckoned. They stopped to have their picture taken in front of the sign. But as they approached it, Dad noticed what looked like fine print at the bottom--and sure enough, the sign also said, "Buyer, Beware!"

Although this is an old joke told about many places, the point is well taken. Most people moving to Colorado take for granted basic governmental services such as electricity, water, sewer, telephone, and roads. They often assume that these services will be present at the new home or homesite because such services tend to exist where people have lived most of their lives, but this is not necessarily true in rural Colorado. This chapter provides a checklist of important items to consider *before* you spend your hard-earned savings building on rural Colorado property.

II. Reality Is Essential

Access

Access generally refers to whether you can get into your property from a passable section of road in all kinds of weather. What is the access to your property? Many roads in rural Colorado, whether they are maintained by the county or not, are not plowed in the winter. If you live on a road that is maintained by the U.S. Forest Service, you may need a permit to plow snow. The same may be true of roads maintained by the Bureau of Land Management (BLM) and other public agencies. An established school bus route may be important if you have children; in a bad snowstorm, primary roads and school bus routes will usually be plowed first. Be prepared to be snowed in. You must keep your driveway plowed in case an emergency vehicle needs to get through. You need to own and maintain the proper equipment or arrange for a plowing service to keep your driveway clear. Who will grade the road in the summer? To find the answers to these questions, ask your county road department, homeowners' association or neighbors.

Water

Many areas in rural Colorado have readily available drinking water from public or private water systems, but some areas do not. Even if the property has an existing well, the water quantity or quality may not be adequate for your needs. Ask the water department, county health department or water provider about availability, hook-up and tap fees, size of water lines, and usage fees. Regardless of the source, you need to determine whether there is enough water pressure for domestic as well as fire protection purposes. If there is no nearby water system, you may need to drill a well or haul your water. Local well-drilling companies can provide information about well drilling costs in your area. Neighbors can also provide useful information on their own wells.

Electric Service

As amazing as it may seem to urban refugees, you cannot take for granted the idea that a public power supply reaches the property you are considering purchasing. Talk to the local electric company early in your investigation because it can be very expensive to bring power to your property, even if power lines are located nearby. Look for power

poles or pedestals indicating underground lines. Some rural electric associations may offer photovoltaic systems. Be prepared for frequent power outages in rural areas.

Telephone

Again, don't take anything for granted. Check with the local phone company. Some areas may be served only by cellular phone service, which is usually more expensive than traditional phone service. Remember that mountains and canyons affect your cellular range.

Sewer or Septic Systems

A few rural areas in Colorado have public sanitary sewer systems, but this is generally not the case. If your property has a septic system, have an engineer or other professional check it to see if it is operating properly and is adequate for your needs. Check with the local health department to see if the required permits are in place. The county building department and planning offices are good places to start with your questions. Remember that a septic system requires special care, and "normal" conveniences, such as garbage disposals, can be very hard on a septic system.

Although most septic systems release domestic waste water into an underground leach field, poor soil conditions may require a lagoon or evaporation pond or an "engineered" leach field. These systems are effective only if properly designed, installed, and maintained. The local health department will have specific information about requirements and alternatives, but you may need to hire a private engineer to design the proper system.

Fire Protection

The possibility of fire on your property is a serious consideration. Most of rural Colorado is served by volunteer fire departments that typically operate on very limited budgets aided by a lot of goodwill and prayers. Depending on the population and available services, expected response times may be very long compared to those of municipal services. In some remote areas there may be no fire protection service available at all. You will probably pay more for fire insurance than you would in an urban setting and may have trouble even obtaining fire insurance for your home.

You also need to give some thought to wildland fires, which can sweep large areas. Most fire districts, the U.S. Forest Service, the BLM and county governments have information on what you can do to help protect your home from wild fires. Be conscientious about clearing a "defensible space" around your home. Most authorities recommend at least fifty feet of clear area between your home and trees or brush. You may need to consider building a separate holding tank that has an independent source of power to pump water for fire protection purposes.

Building Codes

Believe it or not, many rural areas in Colorado have not adopted the Uniform Building Code (UBC) or other uniform national building standards. If there are no building code requirements, request that construction bids be based on uniform code requirements and pay special attention to areas prone to flooding, potential snowloads, and other special needs in your particular area.

Your county government should have maps that indicate flood potential and define "hundred-year flood" areas. A hundred-year flood is usually caused by a storm that drops so much rain in a short period of time that it raises rivers and streams to a level that only happens on an average of every one hundred years.

Snowload calculations are also often based on the possibility of a hundred year event. It is important to understand the significance of snowload requirements. Because snow in your area may remain on your roof for several months, the weight of the snow and ice may easily build up over the winter and reach or exceed the snowload capacity of the structure. The altitude of your home is directly related to snowload calculations. For

example, a home built at 7,000 to 7,500 feet in elevation requires a structure that can support the weight of the roof plus and additional 65 pounds per square foot for the snowload. A 1,500-square-foot roof needs to be designed to hold 97,500 pounds of "live" snowload plus the weight of the roof itself, or the "dead" load, usually about 10 to 15 pounds per square foot. The total load for this small roof area is 120,000 pounds, or the approximate weight of 30 cars!

This is just one example of why it is necessary to build to national building standards in most areas of Colorado. Also keep in mind decks, porches, and sun exposure. You may have serious safety problems depending on where your roof "sheds" the snow, and decks may need to be built to be even stronger than your roof!

The other components of your home, such as the walls, floors, windows and doors, also need to be strong enough to support snowloads as well as the pressure from the force of the wind.

Frostline

You probably viewed or picked out your property in the summer months, and the frostline was probably far from your thoughts at that time. In Colorado, winter temperatures of 20 degrees below zero are not uncommon. In some areas, temperatures can be as low as 65 below zero. The depth of the frostline is essential information so water lines can be buried deeply enough so that they don't freeze. The frostline also dictates how deep to dig your foundation footings so that the house won't be affected by the ground frost in the winter.

If you are unfamiliar with ground frost, think about how water expands when it freezes. When water in the ground freezes, it also expands and can exert tremendous pressures on foundation walls. Expansive soils, found in many areas of Colorado, can also affect foundations in similar ways. Your foundation needs to be designed to withstand the negative effects of all potential site conditions. If you are buying an existing home, check carefully for cracks and other structural defects. If you find any obvious or questionable problems, get a professional opinion regarding their severity.

Insulation

Proper insulation is very important in the Colorado environment. A common temperature setting in Colorado homes is 70 degrees. If it is 90 to 100 degrees outside you will need to cool your house by 20 to 30 degrees, and if it is 20 degrees below zero outside, you will need to heat your house 90 degrees! Because of these factors, installing good insulation is important whether you are building a new home or remodeling.

Good ceiling insulation is the first consideration--in Colorado you need at least R-30 to R-40 protection. It is recommended that you use at least 6 inches of insulation in the walls as well as insulation under floors. Stopping air infiltration is a very important part of a good overall insulation job.

Most window manufacturers offer several grades of insulated glass--if you install big windows to take advantage of Colorado views, it is important to get a good grade. Some types of glass also protect carpets and furniture from fading in the sunlight. Insulated doors and airlocks (two doors--an outer door and then a second door into the home) are also a good idea. Take the time to talk to the county building department or a reputable contractor about necessary protection for your area.

HUD Versus UBC Standards for Manufactured Homes

Manufactured housing may be built to Department of Housing and Urban Development (HUD) standards rather than UBC standards. The differences between the codes may be important. In a mobile or manufactured home, for example, HUD accepts a 30-pound snowload rating for all of Colorado, so if you have a HUD house in an area that has a 65-pound snowload rating, you may have problems. Take the time to learn exactly what you are buying if you are looking at mobile or manufactured homes.

Taking Advantage of the Sun

Although most people are aware of the advantages of passive and active solar-heat systems, these systems have even more importance in Colorado. Think about the orientation of your home. Think about the areas where the roof will shed snow and ice. Proper orientation of your home and attention to eaves and roof lines can take advantage of sunlight in the winter and provide shade in the summer.

Land Use Regulations

It is important for you to be aware of and have copies of *all* applicable land use regulations for your area. These may include county planning documents, subdivision covenants, plat or deed restrictions, zoning regulations, and special district and utility regulations particular to your lot or development. Spending a little on copying charges will save you money in the long run. Put the copies you collect into a three-ring binder for a handy reference. If you sell your home, leave the notebook with the house for the next owner. Also document and keep copies of any special land use approvals or negotiations that you may conduct with a local government entity or your neighbors, such as a conditional use permit or an access easement.

Geologic Hazards in Rural Building

Most of Colorado is rated under UBC standards as Seismic Zone 1. By contrast, most of California is rated as Zone 3 or Zone 4. This rating means that Colorado has only a minor potential for earthquakes. However, there are many other types of natural hazards that occur in Colorado. Common geohazard events include avalanches, landslides, rock falls, mudflows, and ground subsidence. Another significant problem in Colorado is the potential for expansive or swelling soils, characteristics often associated with clay soils. Certain types of soils in Colorado can expand to up to fifteen times their normal volume when they get saturated with rain, snow, lawn watering, runoff, or other forms of moisture. When these soils dry out, they shrink and create ground movement that can crack and lift foundations or cause settling. Some counties have geologic hazard maps that identify some major types of natural hazards. If you think there may be a problem, hire a geologist.

Electronic Communications

The beautiful mountains and canyons of Colorado can cause problems with your reception of electronic communication signals. Living in a remote area may cause interference with television, radio, cellular phone, CB radio and even satellite signals. Be prepared to cuddle up with a good book instead of watching your favorite TV program during bad weather. You may have to spend considerable money to get adequate reception in some areas. Also remember that you may be "out of communication" just when you need it the most.

Other Considerations

1. Is there mail delivery to your home? You may have to get a post office box in a nearby town.
2. If you are buying a home along a state highway, check with the Colorado Department of Highways to see if your access complies with the state access code.
3. If you are going to operate a business, check to see if there are any special licensing requirements or other restrictions in your area.
4. When you buy property, you may own rights only to the surface--someone else may own the right to extract oil, gas, and minerals from your property, and they

- may disturb the surface to do so. Be sure to discuss this possibility with your real estate professional or the title company, or do some research at the county clerk's office yourself.
5. Home-building materials may not be as readily available in rural areas as they are in urban areas. Many items need to be specially ordered and may cost you extra time and money. Don't be upset if local business can't offer the same prices as Builder's Square. Remember, the "laid-back" atmosphere of a small town is one of the features of Colorado that attracted you here in the first place, so try to be patient and go with the flow instead of trying to make the local atmosphere more like the area you are trying to escape.
 6. Part of being a good neighbor is being happy and enjoying Colorado. When someone tells you that you can't do something you'd like to do, it's human nature to feel your temper rise. Calm down and act responsibly. Never assume anything. Do your own homework. Ask questions when you are not sure of something. Don't be afraid to talk to neighbors and "old-timers"- they can be a big help, and you may become good friends.

III. Build Your Rural Colorado Dream

As you evaluate your plans for building in rural Colorado, don't become overwhelmed with potential problems! Approach your project one step at a time, and don't get in too much of a rush. You will be welcomed and treated like a native (well, almost) if you try to appreciate Colorado's rural lifestyle instead of trying to import your values from another area to your new home. If you have a particular expertise, special knowledge, unique perspective, or a good solution to a problem, help the rest of us learn about it instead of just demanding that everyone do things your way. You might be surprised at what new tricks you can teach some old dogs in Colorado if you use a gentle approach.

Once you settle in, don't forget to enjoy all the wonderful resources that Colorado has to offer, and do your part to protect them for future generations. Enjoy the wildlife, the majesty of the mountains, the beauty of a fresh snowfall, fantastic sunsets, and the bluest of skies. Once you have built your home in rural Colorado, you will truly know the meaning of "Home Sweet Home." So "Buyer, Beware," yes- but "Buyer, Rejoice" as well!

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Upper Rio Grande Home Builders also suggest.

- 1) Contact SLV Rural Electrical Cooperative Or Xcel Energy and Telephone companies at the very beginning of the process of buying land and designing your home to make sure you know when or if they will be able to provide you service.
- 2) Contact well drilling company of your choice also at the very beginning of the process. It is important to get scheduled as soon as possible to avoid delays in moving into your house later.
- 3) Check with banking or lending institutions for regulations and how to get construction loans. They may be very different from buying an existing home property.

Above all we want you to know you will find living in the beautiful Upper Rio Grande Area to be a wonderful quality of life! It will be worth the extra steps it may take.