

Wells in the Sangre De Cristo Ranches (SDCR)

By Wolfgang Sattler, Colorado Registered Professional Engineer—April 4, 2011

There are approximately 191 wells drilled in the Sangre De Cristo Ranches (out of a total of about 9,000 lots). These range in depth from 80' to 1,005'. A 100' well in the area will cost about \$7,000 in 2011. A 450' well will cost about \$12,500 complete. Out of these 191 wells, 170 were less than 450' deep. The other 21 wells had the following depths: 480', 500', 500', 505', 510', 575', 600', 847', 850', 850', 893', and 1005'. December 2025

Updated as of March 2026 by Karen Sattler

Well data remains consistent: depths still range from 80' to 1,005', with most under 450'.

Current drilling costs: **\$28–\$62 per foot**. A 100' well: ~\$7,000–\$10,000. A 450' well: ~\$15,000–\$28,000

Always verify water rights and availability with the Colorado Division of Water Resources.

***Please note, steel casing (vs. PVC) can significantly increase overall prices**

Flow rates and water quality. Flow rates of 0.5 gallons per minute are enough for 99% of the households. Wells usually pump into a pressure tank equipped with a low pressure pump-on switch (20 psi) and a high pressure pump-off switch (40-60 psi). These tanks have capacities ranging from 10 gallons to 50 gallons. For extra low flow rates, between 0.1-0.5 gallons/minute tank should be sized at least 30 gallons (net capacity). For flow rates between 0.5 and 2 gallons/minute smaller tanks will work fine. We have been in the Blanca-Fort Garland Area for over 40 years and have never heard a complaint about water quality in the SDCR.

Pumped flow rates. A SDCR well permit comes with "augmented" water rights and allows a flow rate of 15 gallons/minute. They have set aside 4,000 such well permits for the SDCR. With these well permits, watering trees and flowers plus a small garden is allowed. Non-SDCR well permits for 5 acre lots are limited to "inside domestic use only". Our home and office is in SDCR Unit X is on the upslope with an elevation of about 8,300' I have researched the flow rates, depth and costs for the seven wells within 1/4 mile from our place and found that the well depth were: 204', 220', 278', 330', 380' and 480'. A recent well cost, complete, for the 220' well was almost \$7,500 (2011). All of these wells hit some water between 180' and 200'. Typically the well driller will say: "Your permit is for 15 gallons/minute- do you want to go deeper?" Most owners have not thought about that and will wind up with a deeper well, a larger pump and spending more money. Our neighbor with the 480' well hit about 1.5 gallons per minute at 200' but wound up with a 480' well with 5.5 gallons/minute flow rate for \$13,000. Most wells with depth over 200' will have at least 60' of coverage over the pump and that is 40 gallons of storage in the well. Add another 20 gallons "net" capacity for the pressure tank, there is enough water for a 2 gallon per minute shower for 30 minutes.

Once a well has a flow rate of at least 1 gallons/minute-call it good unless you have a bigger budget. Independent of the flow rate, try to get a small pump- 1-2 gallons/minute is fine. Go for a small pump with a large pressure tank

Well Pumping Power. There are only a few power lines in the SDCR and connecting to power can be expensive. One of our neighbors spent \$18,000 to bring a 2,600' underground power cable to his property in Unit X. For shorter distances, power can cost up to \$12/ft. On top of that, it will take a Transformer (\$1,300), a meter and panel (\$500) and an electrician to hook it up for another \$500. As a result, only about half of the people in SDCR are connected to the power grid. The other half use wind and solar power, stored in marine-type batteries often backed up by propane or gasoline powered 1,000-4,000 watt generator (\$200-\$600). A 100-watt solar panel can be purchased for under \$450 and Wal-Mart in Alamosa will sell a good size marine 12-volt battery for \$75. Running a well with such a system requires a low horsepower 12-volt to 30-volt DC pump. But a 12v DC to 120 v AC converter can also be used. For instance a 250' deep well usually has a "static" level 150' down. That requires a 150' lift to the surface plus another 70' to push the water into the pressure tank. For these applications, multi- stage submersible pump with a 1/4 to 1/2 horsepower motor will be needed. These will flow at 0.5-5 gallons/minute depending on head and cost about \$700 with controller. One of these can be ordered on the internet with controller for under \$400. But the well driller will usually will have a 50%-100% mark-up. Solar System will need a minimum of three 12-volt marine batteries. A 1/2 horsepower pump has a starting load of 700 watts and will draw 100-400 watts depending on head and flow rate. Well drillers will try to sell you a much larger system. Get the smallest system available for the well depth.

These well outputs that I propose are much smaller than 95% of the wells in Costilla County. Most people will have a 3/4HP to 1.5 HP well pump (5-18 stages sealed inline centrifugal