Water Wells, Setting Up A Retreat

By: Buckshot

This is harder than most people realize. It takes time and money and many trips to the lumber yard and Hardware store. I know because I just did it for a mobile home.

The number one priority is water. Trust me on this, a handpump with a well is a God send. I did learn a lot about working a hand pump in deep water. They sell a check valve you can install in a 1 1/4 pipe that runs up to the hand pump with a small 1/4 rod. Say your well is 50 feet deep you have water at 38 feet you can place the check valve at 23 feet and then run straight pipe with a screen down another 23 feet. You prime the top half and start pumping water. I talked with the plumber up here for a couple of hours and he filled me in on how to do it. I thought this is pretty slick. You can use this system in wells up to 100 feet you just need a check valve every 23 feet.

I installed a 1/2 hp electric pump. Because the water started at 45 feet and the original hand pump had 70 feet of pipe we set the new pipe at 70 feet. The well was drilled many years ago 5 1/2 inch OD and 5 inch ID so I had to find a cover that supported the 2 pipes and sealed the well. 2 pipes you ask? Yes a shallow well is 23 feet from 23 feet to 110 feet you must installed a jet pump system.

Normally the 2 pipes are sent down to the well jet which is fancy name for a check valve and small nozzle call a jet. A screen below this keeps the water clean. Water is pumped down to the valve, makes a u-turn, and comes back up when it passes the jet the check valve opens from the well allowing fresh water to come up to the pressure tank. The pipes are typically set up 1 inch going down and 1 1/4 coming up you can set it up to 3/4 inch down and 1 going up. this pump is set up to kick on at 20 psi and shuts off at 40 psi. The holding tank I bought is 20 gallon tank with a rubber type seal in it. The pump pressurized the tank with 11.2 gallons to 40 psi the rest of the space in the tank is compressed air that forces the water out at 40 psi. Even if you lose power you still have 11.2 gallons in reserve.

To prime the system you remove the priming cap on the pump and pour in water until it is full. How much water depends on the depth of well and size pipe 3 to 5 gallons is normal. Seal the pump up and fire it up you should have water in less then 30 seconds if you don't shut off the pump and reprime. Normal problems are loose pipe and the pump is sucking air. Now to save money the plumper told me you can run the pipes with the jet down to 47 feet then add a single pipe with the screen on the end the next 23 feet. I used the new flexible plastic pipe that comes in 100 feet roll or 200 feet or 300 feet you cut and install with a hose clamp on special ribbed fitting. This pipe is 160 psi and getting it on the fitting is a bear one trick we learned was to boil water then soak the pipe in it for 2-3 mins then force it on the fitting and clamp it, as the pipe cools it seals great. Make sure you are wearing the proper gloves for this part so you don't burn your hands. Be careful not to splash the hot water on yourself or friend. This new pipe comes in large coils and is lighter, one solid connection the whole length.

The seal I found on the internet and ordered it and had it 4 days later. This seal was built for the well, a rubber type 1 inch thick seal with a cast iron plate on each side, 2 holes, 1 for 1 inch pipe and 1 for 1 1/4 pipe and a vent. We slid this on two pipes and one guy supports the pipe and the other guy places the seal in the well casing, the top plate sits on top and is 5 1/2 inches and the bottom plate is 4 3/4 inch slides in the well.

Once the pipes are set at the proper height for the pump 4 bolts are tighten up... this forces the bottom plate up and flattens the rubber type seal that expands out to the pipe wall sealing it and around the pipes supporting the weight of the pipes. This is very important because you can wear your pump out if the weight of the pipes is pulling down. This seal is vermin proof. Most well contamination comes from bugs or rodents like mice or rats getting in the well casing then dying in the well. After they die a certain type of bacteria forms that can make you very sick. This is very important make sure your are sealed tight.

If you can't afford a full well you can get a well drill with just the casing in place and do the rest later yourself. You can use a jet pump on 2 inch well up to 6 inch well. Most people prefer a 4 inch well. Good luck.