

## Will a storage tank solve the problem of a low production well?

*For you to know if a storage tank system will help in your situation there are three required pieces of information:*

- 1) How much does your well produce on a daily basis? To answer this question you will need to have a well test performed on your well to know what it is capable of producing.*
- 2) What is your average daily water demand? You may have historical information via a water meter or other means. If you don't have any hard data, then it is time to install a water meter or make some estimates. Typical use is about 100 gallons/person/day. Some people use less water, some use more. This usage includes water for cooking, cleaning, showering, laundry, etc... but they don't include water usage for washing the car, watering the garden or sprinkling the lawn. For landscaping needs, consult a good landscaper for a good estimate for the amount of water needed for landscaping.*
- 3) The highest rate of flow required. Some houses have fire sprinklers that need 50 GPM to operate! This can also be determined by the largest flow rate on any given vineyard or landscaping zone.*

*As a rule of thumb, it is a good idea to have about two times as much water available as you will potentially use. This means that seasonal changes in water availability won't impact your ability to meet demand. It's also important to remember that installation of a storage tank requires the installation of a booster pump to re-pressurize the water from that storage tank and should also include installation of low water protection for the submersible well pump to avoid damage to the pump from running dry.*

*Example 1: A property has a well that is capable of producing 2.5 gallons per minute with an available supply of 3600 gallons per day (2.5 GPM \* 1440 min/day). This property has 4 people living on it full time, a small garden and modest landscaping that are on an automatic watering timer with 8 zones that each run 20 minutes. The landscaper indicates that the maximum flow on any zone is 7 gallons per minute. The total demand of 1520 gallons per day comes from adding 400 gallons/day for the people and 1120 Gallons/day for landscaping (8\*20\*7). Since there is more than two times the water available (3600 Gallons) than the amount needed (1520 Gallons) a 2500 Gallon storage tank will help immensely. A booster pump should be selected that will supply 15 GPM to meet the instantaneous demands of the house & irrigation.*

*Example 2: A property has a well that produces 10 GPM with an available amount of water of 14,400 gallons per day. Current plans are for a weekend estate for use by 2-4 people with extensive gardening, small vineyard, landscaping, fountains and a pool. The total demand comes to 12,000 gallons per day (in the summer) with the largest irrigation block being 20 GPM. In conjunction with installation of 20,000 gallons of water storage, the water usage needs to decrease by removing landscaping from the plans or revising the landscaping with drought tolerant plants to reduce the water usage **significantly**. It may also be advisable, since the vineyard is in the planning stages, to utilize a vineyard management company familiar dry farming practices and vineyard layout. A booster pump with the capacity to move 60 Gallons per minute should be selected. Even though the landscaping only needs 20 GPM, the fire sprinkler specifications for the house require 50 GPM @ 60 PSI.*