

## **Wellhead Protection General Guidelines for New Private Domestic Wells**

**Key principles for wellhead protection for private domestic wells are as follows.**

- Proper Location of Well (Proper sanitary control easements)
- Proper Well Construction
- Backflow Prevention
- Keeping Contaminants Away from Well
- Water Quality Analysis
- Proper Closure of Abandoned Wells

San Antonio City Code mandates that the Groundwater Resource Protection Section of the San Antonio Water System (SAWS) is the permitting authority for all water well activities within San Antonio city limits and SAWS service area.

SAWS, Groundwater Resource Protection Section Water Well Permitting Procedures require that all water wells are constructed and completed in accordance with state and local specifications to ensure the protection of our groundwater sources.

### **Proper Well Location and Construction**

**Duties of SAWS Groundwater Resource Protection Section is to:**

- Inspect the property where any water well is to be drilled and refuse the issuance of a permit to drill a well when the proposed location does not meet with all the conditions as referenced under city code and state guidelines.
- Insure that sanitary control conditions and distance requirements are adhered to.
- Require that all wells be constructed and cased so that water from one stratum cannot come in contact with water from another stratum.
- Require a 2-inch annulus between the borehole and the casing from the top of the water bearing formation to the surface. This is to ensure the cement, which fills the annulus, prevents the possibility of any surface contamination.
- Require the casing to be set in the top of the stratum from which water is to be taken and shall be cemented from the top of the stratum to the surface in place by suitable method approved by the Water Quality Division.
- Require for Edwards Aquifer wells new standard schedule 40 steel casing to be used.
- Require for all other wells, a minimum of 40 feet of new schedule 40 steel casing to be used. (Surface to 40 feet.)

The SAWS Groundwater Resource Protection Section Phone Number is;

**(210) 704-7516**

## **Wellhead Protection Recommendations for Well Owners:**

### **Keeping Contaminants Away from Well**

To reduce the chance of contamination of the well, keep the surrounding area free of potential source of contamination such as;

- Pesticides
- Herbicides
- Petroleum products
- Fertilizer
- All household chemicals (such as cleaners, solvents, paints, etc.)
- Animal or fowl enclosure's

If you change the oil in your vehicles yourself, be sure to collect the oil in a container and carry it to a collection center for recycling. Never dispose of the oil by dumping it on the ground.

Do not mix pesticides near a well. Keep all such activities at least 100 feet from the well. A well owner should inspect their well often to insure it's integrity is maintained.

### **Backflow Prevention**

- Hazards
- Prevention

One of the more hazardous situations that can occur with a private well is the possibility of backflow or back-siphoning.

When a well shuts off unexpectedly, such as with a power outage or lightning damage backflow usually occurs. Most private wells have a single check valve that should prevent the water in the column of pipe from falling back into the well, creating suction throughout the home's water system when an unexpected problem arises. Despite this safe guard, the check valve could leak causing the water to flow back into the well. If this happens and the homeowner was using a hose-end device to apply fertilizers or pesticides to the lawn a siphoning effect could be created and the chemical could end up in the homeowners well. Backflow can also occur in lawn sprinkler systems. If one sprinkler is in a low area that has standing water above it, this surface contaminated water could be siphoned into the well.

The installation of a simple atmospheric vacuum breaker on each outside hose bib can prevent backflow. For sprinkler systems, the simplest and most common device installed is a double check valve backflow preventer placed between the well and sprinkler system. Injecting chemicals or fertilizers into the sprinkler system is not recommended due to the high degree of hazard to the well and homeowner.

## **Water Analysis**

It is recommended that well owners routinely have water from their private wells tested to insure that no contamination has occurred. All wells should be tested at least for bacteria and nitrates.

The San Antonio Health Department for a small fee can test for bacteria and nitrates.

**San Antonio Health Department phone number:  
(210) 207-8820**

### **Additional suggestions:**

- Always use licensed or certified water well drillers and pump installers when a well is constructed, a pump is installed or the system is serviced.
- Periodically check the well cover or well cap on top of the casing (well) to ensure it is in good repair.
- Take care in working or mowing around your well. A damaged casing could jeopardize the sanitary protection of your well. Don't pile leaves or other materials around your well.
- Keep your well records in a safe place. These include the construction report (State Well Report), as well as the annual water well system maintenance and water testing results.

## **Abandoned Wells**

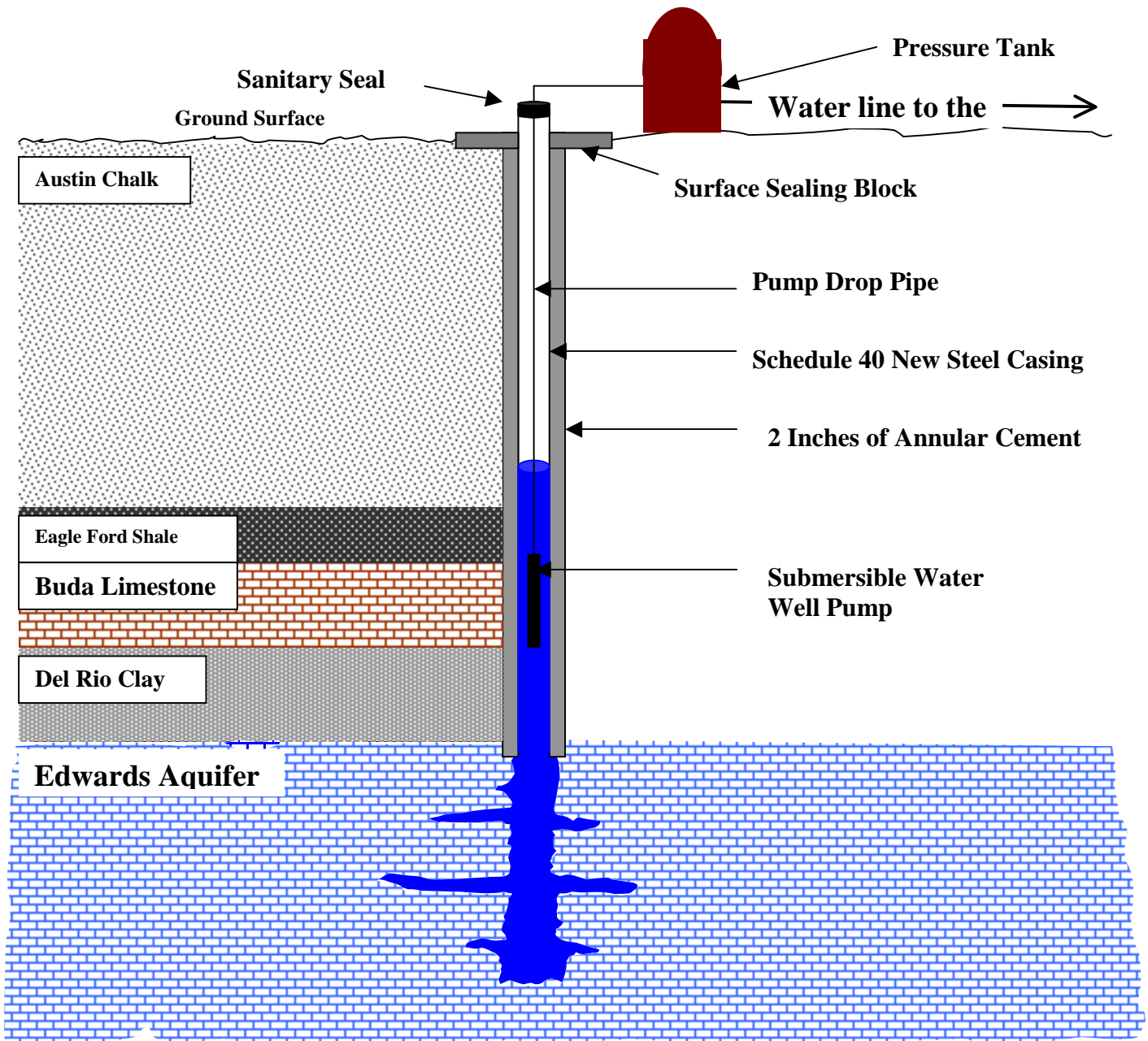
Abandoned water wells or wells in deteriorated condition, pose a serious threat to the Edwards Aquifer or any aquifer. Any well that has not been used for a minimum of six consecutive months, is not connected to an active power source and, exists in a deteriorated condition, is defined as an abandoned and must be properly plugged.

**Never use an abandoned well to dispose of any material**

**Report any or suspect abandoned well to the SAWS  
Groundwater Resource Protection Section at 704-7516.**

**Questions regarding Wellhead Protection and the Domestic  
well Call Jim O'Connor at 704-7533**

# Typical Domestic Edwards Aquifer Water Well



# Typical Domestic Glen Rose Aquifer Water Well

