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Proper Well Abandonment Procedures (WAB, FW-Heat Pump)

A. Drilled wells with current GW-2 (driller's report)

1. Casing may be salvaged when possible.
2. The well must be checked to assure it is free from obstructions prior to plugging.
3. The well must be thoroughly disinfected prior to plugging.
4. When the casing is salvaged (removed), the well may be back filled to 20 feet below bedrock, with clean sand, gravel, or well cuttings.
5. When the casing cannot be removed, the well may be back filled to 20 feet below bedrock or 20 feet below the bottom of the casing, whichever is greater.
6. In each scenario the remainder of the well must be pressure grouted with neat cement (portland & water) or a bentonite slurry

B. Drilled wells without current GW-2 (driller's report)

1. Casing may be salvaged when possible.
2. The well must be checked to assure it is free from obstructions prior to plugging.
3. The well must be thoroughly disinfected prior to plugging.
4. The well shall be pressure grouted with neat cement or a bentonite slurry from the bottom to the top. The grout pipe may be terminated at 100 feet.

C. Hand dug wells and bored wells

1. The well must be checked to assure it is free from obstructions prior to plugging.
2. The well must be thoroughly disinfected prior to plugging.
3. The well shall be concreted, or pressure grouted with a neat cement from the bottom to the top. For wells with diameters greater than 2 feet, a concrete mix may be poured into the well until it is filled (continuous pour required).
4. A permanent marker located in the center of the abandoned well and at ground level must indicate the type of well and date abandoned.
5. **If the abandonment method stated in section 12VAC 5-630-450 of the Private Well Regulations is used, then all distance requirements set in table 3.1 of the Private Well Regulations are to be followed.**

D. Wells constructed in unconsolidated formation

1. The well must be checked to assure it is free from obstructions prior to plugging.
2. The well must be thoroughly disinfected prior to plugging.
3. The well shall be pressure grouted with neat cement or a bentonite slurry from the bottom to the top.
4. A permanent marker located in the center of the abandoned well and at ground level must indicate the type of well and date abandoned.

E. **A 25-foot setback distance from any part of a sewage disposal system or future systems is required for all wells properly abandoned.**

Hydrofracking Well Requirements (FHF)

1. The well (hydrofracking) contractor must be licensed by the Loudoun County Health Department to install water supply systems.
2. This permit is to hydrofrack the well shown on the well design page.
3. **The well must be pump tested by the method described on Page one (1) of this permit no matter what the estimated yield determined following the fracking procedure.**
4. The Health Department recommends zone tracking.
5. The upper packer must be placed below the casing and grout zones.
6. **The source of water for the process must come from a potable source.**
7. **NO FRACKING CAN BE PERFORMED IN THE TOP 120 FEET OF THE WELL.**

General Test & Monitor Well Installation Requirements (FTW & MN-Monitoring Well)

1. The well contractor must be licensed by the Loudoun County Health Department to install water supply systems.
2. This permit is null and void if the site conditions are changed from those on the application or this permit.
3. The well installation area shall not be physically altered (vehicular traffic, cutting, filling, etc.) prior to installation of the well system.
4. The well must be located and drilled as permitted, maintaining the specified setback distances, and casing requirements. Well site location indicated on the attached location drawing might be approximate. Contact Miss Utility before beginning any work.
5. Wells shall be constructed in a manner to prevent infiltration.
6. A driller's report is to be submitted to this department. (GW-2).
7. A satisfactory Health Department inspection of well location and construction is required prior to grouting.
8. A locking well cap and lock must be provided until the well is developed or abandoned.
9. Any well not developed must be properly abandoned or **offered to the County of Loudoun as a permanent monitoring well.**
10. Well lots and casing must be raised above 100-year Flood Planes a minimum of 2 feet.

Test Well Installation Requirements (FTW)

1. The Well Contractor must be licensed by the Loudoun County Health Department to install water supply systems.
2. This permit is for a test well to conduct a hydrogeological study.
3. The well may be utilized as a private individual water well/supply in the future if all the minimal setback distances listed below are met:

House or Structure	50 Feet
Drainfield Areas	50 Feet
Property Lines	10 Feet
Other Pollution Sources	50 Feet

4. Wells located in the open space areas of a hamlet must be provide with a surveyed easement that is 50 foot in diameter around the well. The water service line that goes from the property to the well must be provided with a 20-foot-wide easement.
5. If the well is found to not meet the minimum setbacks, the well may be properly abandoned or other adjustments will be made as required (i.e., drainfield moved, etc.).

General Well Installation and Final Well Production Requirements (FW, WRD, FWR, FMW, FPW, MN)

1. The well contractor must be licensed by the Loudoun County Health Department to install water supply systems.
2. This permit is null and void if the site conditions are changed from those shown on the application or this permit.
3. The casing thickness for a 6 inch well must be .288 inches or thicker. If a larger diameter well is to be installed, call the Health Department for minimum thickness.
4. The well installation area shall not be physically altered (vehicular traffic, cutting, filling, etc.) prior to installation of the well system.
5. The well must be located and drilled as permitted, maintaining the specified setback distances, and casing requirements. Well site location indicated on the attached location drawing may be approximate; final location shall be surveyed in and Virginia state coordinates (lat/long) shall be submitted to the Health Department. Contact the Health Department if there are any questions regarding system location or construction. Contact Miss Utility before beginning any work.
6. If pit privies, septic tanks, cesspools, drainfields, underground storage tanks or other potential pollution sources are pertinent features are discovered within 100 feet of the proposed well installation, but are not shown on the permit sketch, contact the Health Department immediately, and do not proceed with construction until, or unless, clearance is granted by the Health Department.
7. A 100-foot radius well lot shall be established. No structures or potential pollution sources will be permitted within this well lot except for approved pumping and/or water treatment facilities.
8. Pumping and treatment facilities. Distribution system shall be designed and certified by a professional engineer licensed in the state of Virginia. All related drawings, specifications and calculations shall bear the engineer's stamp or seal.
9. Well shall be cased and grouted to a minimum depth of 100 feet if a public well or 50 feet.
10. A satisfactory Health Department inspection of the well location and construction is required prior to grouting.
11. Grout material shall be neat cement or a mixture of 6 % Bentonite and neat cement.
Grouting procedure must be witnessed by the Health department.
12. A minimum 72 - hour safe yield (pump) test must be performed, and the results submitted to this Public Health Department.
13. **This is a Health department permit only; all other applicable Federal, State and Local regulations, ordinances, policies, and procedures must be complied with, not withstanding anything contained in this permit.**

General Test (Pilot) Well Installation Requirements (FTW)

1. The well contractor must be licensed by the Loudoun County Health Department to install water supply systems.
2. This permit is null and void if the site conditions are changed from those on the application or this permit.
3. The well installation area shall not be physically altered (vehicular traffic, cutting, filling, etc.) prior to installation of the well system.
4. The well must be located and drilled as permitted, maintaining the specified setback distances, and casing requirements. Well site location indicated on the attached drawing might be approximate. Final location shall be surveyed in and Virginia State coordinates shall be submitted to the Health Department. Contact the Health Department if there are questions regarding system location or construction. Contact Miss Utility before beginning any work.
5. Temporary casing and grout must be 10 feet into the bedrock or a minimum of 20 feet whichever is greater.
6. Grout material should be bentonite.
7. Wells and surrounding area shall be constructed in a manner to prevent infiltration.
8. A driller's report is to be submitted to this department.
9. A satisfactory Health Department inspection of well location and construction is required prior to grouting.
10. A locking well cap and lock must be provided until well is redeveloped or abandoned.
11. Any well not redeveloped must be properly abandoned.
12. Well lots and casing must be raised above 100-year Flood Planes a minimum of 2 feet.