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MISSOURI DEPARTMENT OF NATURAL RESOURCES

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## Last Print Version of this Newsletter

Beginning in 2018 *The Connection* Newsletter will no longer be printed, but it will continue to be available online at [dnr.mo.gov/geology/geosrv/wellhd/wellpub.htm](http://dnr.mo.gov/geology/geosrv/wellhd/wellpub.htm).

Moving to an online-only version of the newsletter will result in a considerable savings in printing and postal costs.

The best way to be sure you don't miss an issue is to sign up to receive email notifications from GovDelivery. GovDelivery also provides notifications about Well Installation Board meetings, when items are added to the section's website, and about other topics related to water wells and drilling.

To get started, visit Wellhead Protection section's webpage at [dnr.mo.gov/geology/geosrv/wellhd/wellsanddrilling.htm](http://dnr.mo.gov/geology/geosrv/wellhd/wellsanddrilling.htm) and click on the

multi-colored "Get Updates on this Issue" envelope, enter your email address or sign in



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using your preferred social media account, follow the prompts by providing email address and establish a password. Questions regarding this feature should be directed to 573-368-2165.

## Well Installation Board News

The Well Installation Board met in regular session on August 18, 2017, at the Missouri Geological Survey in Rolla. The agenda included legislative updates, the Governor's Red Tape Reduction Initiative, section updates and the status of the Groundwater Protection Fund. The fund is stable and there will not be a fee increase this fiscal year. The last fee increase was in 2009.

The May 2017 meeting was canceled due to a lack of agenda items. The next meeting is scheduled for 10 a.m. November 3, 2017, at the Missouri Career Center located at 1100 South Bypass #2 in Kennett. During this meeting Mr. Robert Lawrence will be recognized for his service to the board. With the departure of Lawrence, the board has four vacant seats.

If you are interested or know about anyone willing to serve on the board, applications are accepted online. Visit Gov. Greitens' website at [governor.mo.gov](http://governor.mo.gov), go to the "Get Involved" tab at the top of the page, and click on Boards and Commissions to apply. Well Installation Board member vacancies are water well installation contractor, private well user, public well user, and monitoring well installation contractor.

## Robert Lawrence Announces Resignation from the Well Installation Board

Mr. Robert Lawrence announced his resignation from the Well Installation Board effective September 12, 2017, after serving 25 years as a board member and chairman. Lawrence was one of the original Governor-appointed members to the Well Installation Board in 1992. Since that time Lawrence served as a board member representing water well contractors from 1992 to 2017 and as board chairman from 1998 to 2011. The department is grateful for his many years of service to the board, the well drilling industry, and the citizens of Missouri. Lawrence will be honored at the November 3, 2017, board meeting in Kennett.

## Funds Available to Plug Abandoned Wells

The Missouri Department of Natural Resources' Soil and Water Conservation program has funds available for plugging abandoned water wells. This funding applies to wells that are drilled, dug, driven, bored or otherwise constructed vertical water wells that are subject to agricultural nonpoint source contamination. Available funding for decommissioning wells may vary between counties.

Funding for this cost-share practice comes from the one-tenth-of-one-percent Parks, Soils and Water Sales Tax, which is administered through local soil and water conservation districts. By properly managing and plugging wells, local soil and water conservation districts are working to protect groundwater.

The districts provide financial incentives and technical support to assist with the voluntarily implementation of soil and water conservation practices that decrease soil erosion and protect water resources. With 50 different soil and water conservation practices available, the Missouri Soil and Water Conservation Program can help farmers and landowners with a variety of resource issues.

Landowners may contact their county's local soil and water conservation district office for information about this cost-share program and other services. To locate district offices, call 800-361-4827 or visit the Soil and Water Conservation Program website at [mosoilandwater.land](http://mosoilandwater.land).

For more information about the Soil and Water Conservation Program, visit [dnr.mo.gov/env/swcp](http://dnr.mo.gov/env/swcp).

## Placement of Domestic and Multi-family Water Wells

Many questions arise when selecting the location of domestic and multi-family wells. Where does the owner want it? How do the rules apply to placement of the well? How to please the landowner while also complying with Missouri Well Construction Rules?

A well must be located consistent with the general layout and surrounding area giving consideration to the size of the lot, land contours and contaminant sources. A well shall be located on a site at a higher elevation than any source of contamination, if possible. The top of the casing must extend at least 1 foot above the finished surface grade.

A well shall be located in an area where its surroundings can be kept in a sanitary condition and provide ready access for repairs, maintenance and inspections. The well shall be located so that proper drainage in the vicinity of the well will prevent the accumulation and ponding of surface water within 10 feet of the well.

If at all possible, the well should be located in an area that is not prone to flooding. If a well is constructed in a floodplain, the top of the casing should terminate not less than 2 feet above the maximum known flood water elevation. If this is impractical, the well vent must be sealed and the well discontinued from operation when flooding is eminent.

A well shall be adequately sized, designed and developed for its intended use. It should be constructed so as to maintain existing natural protection against pollution of water-bearing formations and to exclude all known sources of contamination from the well, to include sources of contamination from adjacent properties.

For quick reference, the following is a list of setback distances from water wells to potential sources of contamination. The list is not all-inclusive. Refer to 10 CSR 23-3.010 ([sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-23](https://sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-23)) for detailed references or call 573-368-2165 for assistance.

### A well shall be at least 300 feet from:

- A storage area for commercial fertilizers or chemicals
- A landfill
- A lagoon
- An above or underground storage tank
- Distribution lines for liquid petroleum, petroleum products or chemicals
- Earthen, concrete or other manure storage structures or lagoons
- Land application areas for domestic or animal waste
- Animal composting facilities

### A well shall be at least 100 feet from:

- Cesspools
- An unplugged abandoned well
- A subsurface disposal field
- A privy
- A grave
- A single family lagoon
- A building or yard used for livestock or poultry

### A well shall be at least 50 feet from:

- A buried sewer
- A septic tank or sewer holding tank
- A pit or unfilled space below ground surface
- A sump
- An existing operating well

### A well shall be at least 10 feet from:

- The right of way of any federal, state, or county road.

While not required by regulation, it is recommended that a well be at least 25 feet from an electric transmission line which is in excess of 50 kilovolts, and least 15 feet from an overhead electric distribution line.

## What is a Certification or Registration Record?

Contractors sometimes contact Wellhead Protection Section staff because they do not know when a record is required or the difference between a certification and registration record. [Missouri Well Construction Rule 10 CSR 23-3.060](#) describes when and which type of record is required to report certain types of work.

Certification records are used to report new water, monitoring or heat pump well construction or the initial pump installation in a new well. Sometimes, a well is drilled and it may be several months or years before a pump is installed. When in doubt whether the pump installation is the initial one, send in a pump record. Staff match new wells with the initial pump installation and will hold certification of a well until the pump information is received. If the well record has already been matched with a pump record and a subsequent pump record is submitted, the section will use the information as a replacement pump.

Registration records are used to report the plugging of a well, raising of casing, liner installation, deepening of a well or any other repair, or major alteration that changes the original specification of the well. Registration records are commonly known as plugging records or reconstruction records. All records shall be submitted with the appropriate fee within sixty (60) days of completion of work. Forms are online at [dnr.mo.gov/forms/index.html#WellheadProtection](https://dnr.mo.gov/forms/index.html#WellheadProtection).

All records submitted to the department shall have the geographic location of the well, or pump installation or repair. The geographic location shall have a format of degrees, minutes and seconds. Location accuracy shall be one place after the seconds decimal point (e.g., latitude 38° 12' 34.9"N, longitude 94° 01' 10.3" W).

[dnr.mo.gov/forms/index.html#WellheadProtection](https://dnr.mo.gov/forms/index.html#WellheadProtection)

## Red Tape Reduction - Regulation Review

The Missouri Department of Natural Resources works to protect our air, land and water; preserve our unique natural and historic places; and provide recreational opportunities for everyone. We all want clean air, clean water and pristine land.

Burdensome regulations and time-consuming paperwork, however, that provides minimal enhancements to our natural resources and public health protection, are not effective. They restrict business growth and interfere with improving our economy. Under Gov. Greitens' leadership, all state agencies are working to reduce Red Tape in Missouri.



Red tape refers to regulations or other government rules or processes that unnecessarily burden individuals and businesses while doing little to protect or improve public health, safety and our natural resources.

The department has already identified a number of rules needing rescission or amendment through its Periodic Rule Review ([dnr.mo.gov/PeriodicRuleReview.htm](http://dnr.mo.gov/PeriodicRuleReview.htm)). The results of this review were filed with the Joint Committee on Administrative Rules and the Small Business Regulatory Fairness Board Friday, June 30. We expect to identify even more rules that need action during our red tape reduction review.

The department will continue protecting Missouri's air, land and water quality while encouraging economic growth so that Missouri and all Missourians prosper. It's the worthiest of missions, and it can be done. You can help us in our mission by providing your input on ways we can reduce unnecessary red tape.

### Your Comments are Welcome

Please provide your input about ways we can reduce unnecessary red tape. Comments will be accepted through Dec. 15, 2017.

Visit this website to provide comments online:  
[dnr.mo.gov/redtapereduction](http://dnr.mo.gov/redtapereduction).

Submit written comments to:  
Department of Natural Resources  
Attn: Red Tape Reduction  
PO Box 176  
Jefferson City, MO 65102-0176

Regulations relating to well drillers are online at  
[sos.mo.gov/adrules/csr/current/10csr/10csr#10-23](http://sos.mo.gov/adrules/csr/current/10csr/10csr#10-23).

## Contractor and Apprentice Well and Pump Installation Testing Schedule

The following 2018 testing dates are scheduled at the Missouri Geological Survey, Annex Building, 1251 Gale Drive, Rolla. All tests begin at 9 a.m. Testing dates may be modified if necessary. Please bring a picture ID with you to the testing site.

January 17, 2018	July 18, 2018
February 14, 2018	August 15, 2018
March 14, 2018	September 12, 2018
April 18, 2018	October 17, 2018
May 16, 2018	November 14, 2018
June 13, 2018	December 12, 2018

If you are applying for a non-restricted permit, please be sure to bring your global positioning unit (GPS) and operating manual to the test site. Your GPS unit should be programmed to read in degrees, minutes and seconds in accordance with 10 CSR 23-3.060(5). If you have questions concerning this schedule or testing please call 573-368-2450.

For your convenience, the apprentice/restricted exam can now be completed online, at [dnr.mo.gov/mowells](http://dnr.mo.gov/mowells). Please contact the Wellhead Protection section at 573-368-2165 to obtain a test ID. Persons with disabilities who may require special services may contact Jeannie Hoyle at 573-368-2450.

## What is Meant by “Major Reconstruction” of a Well?

The definition for “major reconstruction” in the Missouri Well Construction Rules means the alteration or repair of any well that changes the original specifications of the well. This would include casing or total depth of well changes, installing a liner or raising casing above grade. Repairs to the piping, pressure tank, electrical system or pump replacement are not reconstruction activities. All reconstruction work must be reported to the department on forms within sixty (60) days of completion. A \$50 registration fee is required. Raising casing is exempt from the registration fee but the work must be reported to the department on a reconstruction form.

## Submit Your Records Online!

Did you know that you can submit your certification and registration records online? Wellhead Online Services may be accessed at [dnr.mo.gov/mowells](http://dnr.mo.gov/mowells). At this website, contractors may log in and submit monitoring well certification and registration, well reconstruction, heat pump and water well certification, pump and plugging registration records. Save time and paper and submit your records electronically!

## Special Area 2 Water Sampling

Water sampling has been required in Special Area 2 (Newton and Jasper counties) since January 2002, when the Missouri Well Construction Rule 10 CSR 23-3.100(6) Special Area 2 was amended to address contamination of the upper aquifer. This special area was formed due to contamination by one or more of the following: lead, cadmium, TCE, TCE degradation products or other contaminants of the U.S. Environmental Protection Agency's National Primary Drinking Water Regulations.

Missouri Well Construction Rule 10 CSR 23-3.100 (6)D states that, "Water from all new wells and deepened wells throughout Special Area 2 shall be sampled and analyzed for lead and cadmium. New and deepened wells must also be tested for TCE and its degradation products within TCE impact areas. Qualified and trained persons must complete sample collection." The rule also includes the following sentence, which has been a source of confusion for some time, "A copy of the chain of custody form shall be submitted to the division with the water well certification form to document that sampling has occurred." Adherence to this rule this has proven to be impractical for drilling and pump contractors for several reasons. There are cases where delays occur in retrieving the sample or someone other than the driller collects the sample. Additionally, instances occur when contractors must submit a certification record before the Chain of Custody form is available in order to avoid a late fee.

Therefore, it is not mandatory that a Chain of Custody form be sent with the well record. It has proven more practical for the contractor to submit a Chain of Custody form with the sample results.

It should be noted that the Chain of Custody form is a legal document that **MUST** be submitted.

The department keeps the form, the well record, and sample results indefinitely. If the contractor has arranged with the lab they use to automatically copy the Wellhead Protection Section with sample results, the lab should also be instructed to submit the Chain of Custody form. An incomplete or missing form will delay the certification of a well record.

It is important to note that the regulations hold that the drilling contractor is ultimately responsible to provide the sample results and the Chain of Custody form for any new well drilled or old well deepened in Special Area 2, regardless of who sets the pump. It is and will remain acceptable for the drilling contractor to arrange with a pump contractor or other qualified individual to sample the well and provide the section with the results and Chain of Custody form.

All new and deepened old wells in Special Area 2 shall be constructed with a sampling port or tap within 10 feet of the wellhead. Water must be purged from the sampling port prior to collection of a sample.

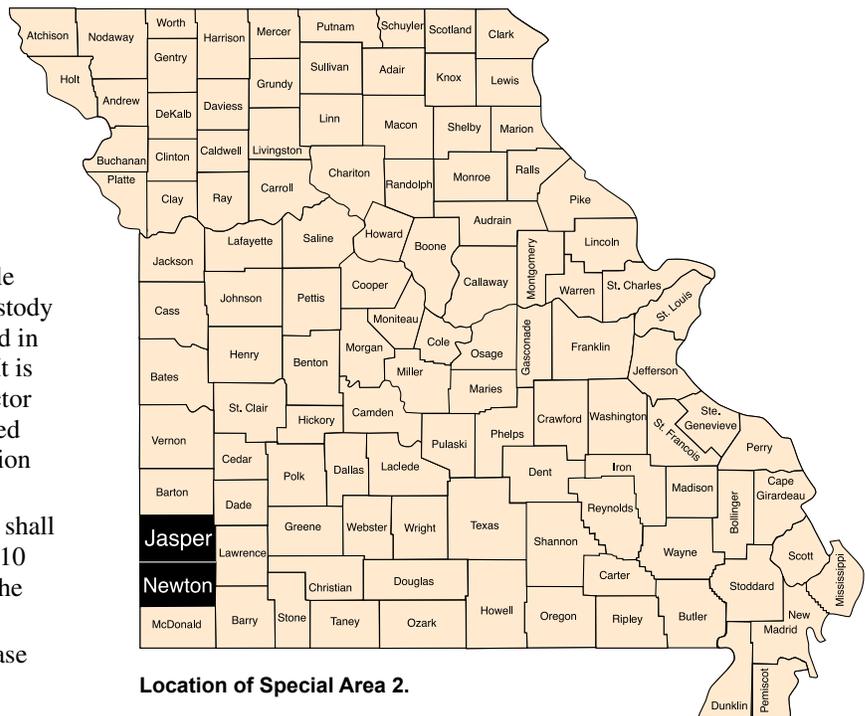
If you have any questions regarding this issue please contact staff at 573-368-2165.

## Wellhead Protection Section Online Directory

- Missouri Well Construction Rules: [sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-23](http://sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-23)
- The Department's Website: [dnr.mo.gov](http://dnr.mo.gov)
- The Wellhead Protection Section Website: [dnr.mo.gov/geology/geosrv/wellhd/wellsanddrilling.htm](http://dnr.mo.gov/geology/geosrv/wellhd/wellsanddrilling.htm)
- Online Well Information: [dnr.mo.gov/mowells](http://dnr.mo.gov/mowells)
- Wellhead Protection Section Email Address: [welldrillers@dnr.mo.gov](mailto:welldrillers@dnr.mo.gov)
- Rules in Development: [dnr.mo.gov/geology/geosrv/rulesindevelopment.htm](http://dnr.mo.gov/geology/geosrv/rulesindevelopment.htm)

## Wellhead Protection Section

We are here to ensure any new private well drilled in Missouri is constructed to minimum standards as set by state regulations. This helps protect our groundwater resources from contamination due to improperly constructed wells. Staff in the Wellhead Protection Section regulate the construction of private water wells (this includes domestic and multiple-family wells), irrigation wells, monitoring wells and heat pump wells. In addition, we regulate how to properly plug all types of wells.



Location of Special Area 2.

## Welcome Apprentice Contractors

The following individuals are now part of the Missouri Department of Natural Resources' permitted apprentice contractor community:

Environmental Works – Wesley Gregg  
MODNR – Emily Clancy  
Palmerton & Parrish – Joshua Starkey  
Roden Pump Service – Stephen L. Roden, James Hutchens  
Terracon Consultants – Dustin Hagewood

## Welcome Contractors

The following individuals are now part of the Missouri Department of Natural Resources' permitted contractor community:

Christian County SWCD – Jeremy Wallen  
Control Technology and Solutions – Duke Snider  
Dallas County SWCD – Matthew Hale, Anthony Rosen  
ECC – Gina Calderone  
Golder Associates Inc – Matthew Gore, Tommy Goodwin Jr.  
Randolph County SWCD – John Kirchoff  
Roden Pump Service – Stephen H. Roden

## Regulations Governing Oil Wells, Gas Wells and Water Wells



Missouri oil production primarily occurs along the state line from Nevada in Vernon County to Jackson County near Kansas City, with some additional oil production north of Kansas City in Atchison County. On the eastern side of the state, limited oil production occurs in St. Charles County north of St. Louis.

For the most part, Missouri's oil is "heavy" and does not flow under pressure as one may think of a typical oil well in Texas. Missouri oil has to be heated using steam or pushed by water in order to extract the valuable resource. Water-flood and steam operations demand a large volume of water to produce oil on many leases in the state. The majority of operators use a municipal district water supply to produce high-quality steam with low dissolved solids. A few operators use the groundwater supply and treat the water to obtain a high degree of quality before converting to steam.

Aquifers associated with oil and natural gas pools tend to have high sulfur concentrations and high total dissolved solids. This combination results in poor water quality especially for potable uses. Although the water quality is poor in oil production areas, it is essential that all groundwater resources be protected.

Water wells drilled in all areas of the state must conform to the Missouri Well Construction Rules, including water wells drilled into potable aquifers to aid in the production of oil or natural gas. The rules require all water wells be drilled by a permitted contractor licensed in the state. Wells used to produce oil and natural gas or those wells drilled in connection with the production of oil and gas (such as injection wells) are exempt under the water well rules. Therefore, oil and gas operators need to be aware that drilling contractors for oil and gas wells may not drill water wells unless they hold a valid contractor permit from the state.

## County Ordinances

Some counties in Missouri enacted their own ordinances regarding building, septic and water. While a city, county or township cannot enact ordinances that decrease the minimum regulatory standards set by the State of Missouri, these entities can enact ordinances that are more stringent.

Drilling contractors should be aware that certain counties may require a separate variance, permit or approval for the construction of a well close to a known contaminant source, such as a domestic septic system. Some counties will accept a variance issued by the Missouri Department of Natural Resources' Wellhead Protection Section as adequate for their purposes. Other counties, such as Jefferson County, will not accept a department-issued variance, and they require a separate review and appeal process before issuing the landowner the proper permit to proceed with a well installation. Jackson County requires approval to drill a domestic well at any location in the county.

The drilling contractor must be aware of any ordinances at the county level if they believe a variance will be required before drilling at a location. The contractor or landowner should contact the county commission or department of land use and code enforcement to verify local requirements.

## Reminder About Submitting Records

Many records cannot be processed without contacting the well or pump installation contractor or an owner for more information. It is important to provide the complete name, address and phone number of the owner for which you are doing work when you submit any registration, certification or pump record. A site address (no PO Box) and GPS location will help us match records in the event the owner name is misspelled or incorrect. Please print all information legibly. Double-check forms for accuracy and missing information.

The record has an area for notes, or you may attach a separate sheet if necessary. These notes should provide useful information such as who will set the pump, which company drilled the well, or detailed explanation about an unusual procedure or problem encountered while drilling or repairing a well.

The more information you provide, the quicker we can issue a certification or registration number, and the less you will hear from us. As always, we are happy to help if you have questions or suggestions for making the process better for everyone.





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