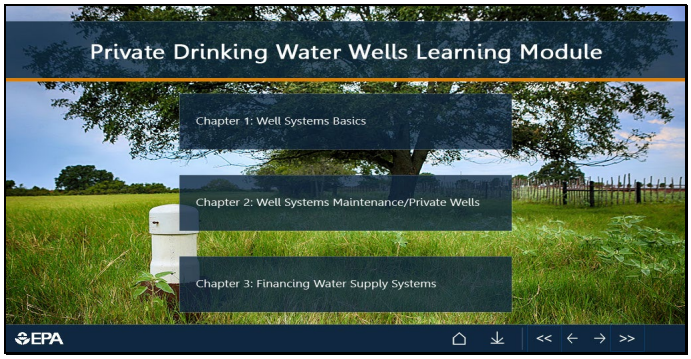
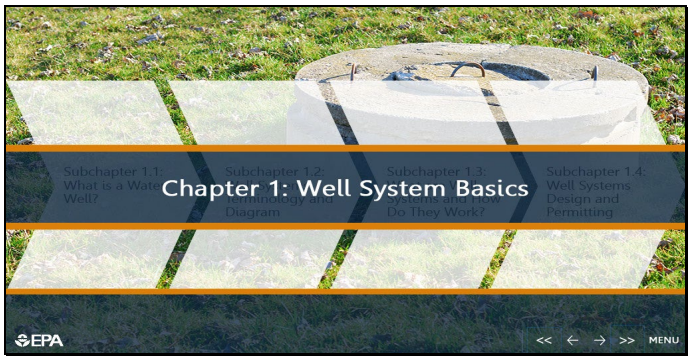
This guide is intended for homeowners who are seeking information to support the operations & maintenance of existing private wells or the construction of new systems. This guide contains information on well types and the basics of well operations, how to properly maintain a privately owned well, what it costs to construct and maintain a well, sources of potential funding, and other related information.



Chapter 1: Well Systems Basics

Chapter 2: Well Systems Maintenance/Private Wells

Chapter 3: Financing Water Supply Systems



Chapter 1: Well System Basics

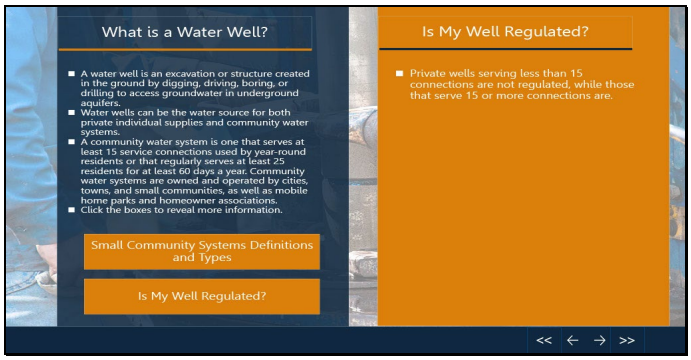
Subchapter 1.1: What is a Water Well?

Subchapter 1.2: Well Systems Terminology and Diagram

Subchapter 1.3: What are Well Systems and How Do They Work?

Subchapter 1.4: Well Systems Design and Permitting

Subchapter 1.1: What is a Water Well?



What is a Water Well?

A water well is an excavation or structure created in the ground by digging, driving, boring, or drilling to access groundwater in underground aquifers.

Water wells can be the water source for both private individual supplies and community water systems.

A community water system is one that serves at least 15 service connections used by year-round residents or that regularly serves at least 25 residents for at least 60 days a year. Community water systems are owned and operated by cities, towns, and small communities, as well as mobile home parks and homeowner associations.

Click the boxes to reveal more information.

Small Community Systems Definitions and Types

Definitions and Types

The United States Environmental Protection Agency (EPA) has defined three types of small community water systems (https://www.epa.gov/dwreginfo/information-about-public-water-systems):

Community Water System (CWS). A public water system that supplies water to the same population year-round.

Non-Transient Non-Community Water System (NTNCWS). A public water system that regularly supplies water to at least 25 of the same people at least six months per year, but not year-round. Some examples are schools, factories, office buildings, and hospitals which have their own water systems.

Transient Non-Community Water System (TNCWS). A public water system that provides water in a place such as a gas station or campground where people do not remain for long periods.

Is My Well Regulated?

Private wells serving less than 15 connections are not regulated, while those that serve 15 or more connections are.

Water wells are classified according to the method used to build them. There are four (4) common types – dug, bored, driven, and drilled. Dug, bored, and driven wells are rarely more than 50 feet deep. Drilled wells can be 1,000 feet or more in depth. The important facts about each type of well are discussed here.

Click the boxes to learn more.

Bored Wells

Bored wells are constructed by means of an earth auger which bores a cylindrical hole into the earth. After water is reached, the well is cased with tile, steel pipe, or other suitable material. The lower part of the well should be lined with a screen, which keeps sand and other material from entering the water being pumped. Like dug wells, bored wells are subject to contamination unless the casing is sealed with grout to a depth that prevents surface contamination. Local health departments of permitting authorities may stipulate grouting specifications.

Driven Wells

Driven wells consist of a series of tightly coupled pipe lengths fitted with a well point at the lower end. The well point is forced through the ground by a series of blows on the pipe above it. When the point reaches the water table, water flows into the pipe through screened openings on the well point.

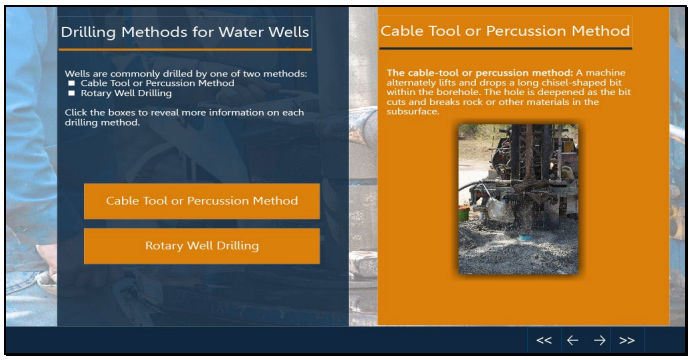
Driven wells are most practical when the water table is no deeper than 50 to 60 feet. Obviously, the underground strata must be porous and free from rocks in order to permit driving of the well point. When these two conditions are present, the driven well may be the simplest and cheapest means of developing a groundwater supply. However, driven wells can be difficult to grout and may have small flows due to their small diameter.

Dug Wells

Dug wells are simply made by excavating a hole several feet in diameter to a fairly shallow depth. The circular hole is then lined with rocks, brick, wood, or concrete pipe to prevent a cave-in. Because depth is limited to 25 to 30 feet, a dug well is practical only when the water table is near the surface of the earth. For this reason, there is a strong likelihood of contamination by surface drainage and/or sub-surface seepage. Because a high percentage of such wells are polluted, the use of dug wells should be avoided, if at all possible. In many areas, dug wells are prohibited by state law.

Drilled Wells

Drilled wells are used when greater depth, volume, or diameter than a driven well can provide is needed. They are also necessary when the subsurface is too hard to permit a well point to be driven through it.



Drilling Methods for Water Wells

Wells are commonly drilled by one of two methods:

- Cable Tool or Percussion Method
- Rotary Well Drilling

Click the boxes to reveal more information on each drilling method.

Cable Tool or Percussion Method

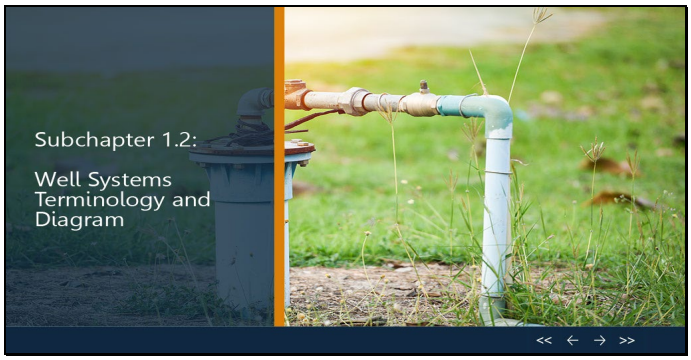
The cable-tool or percussion method: A machine alternately lifts and drops a long chisel-shaped bit within the borehole. The hole is deepened as the bit cuts and breaks rock or other materials in the subsurface.

Rotary Well Drilling

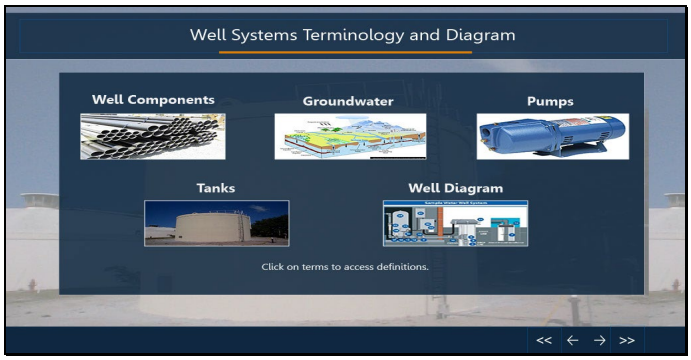
The rotary well drilling method: A rotating bit is fixed to the lower end of a steel pipe, known as the drill pipe. The rotary action of this bit chews into the rock or other earth materials. Air or water is used to transport the cuttings or chips to the surface.

The drilled hole is lined with steel or plastic pipe called the well casing. The well casing keeps the well from caving in and protects the groundwater from contamination by seeping surface water.

The lower part of the well may contain a screen, which is a filtering device that allows water to enter the well but prevents sediment from entering it. It can also structurally support the aquifer materials. Drilled wells may or may not be screened; for example, water wells completed in fractured bedrock are often open holes with surface casing completed only through upper unconsolidated material.



Subchapter 1.2: Well Systems Terminology and Diagram



Well Systems Terminology and Diagram

Click on terms to access definitions.

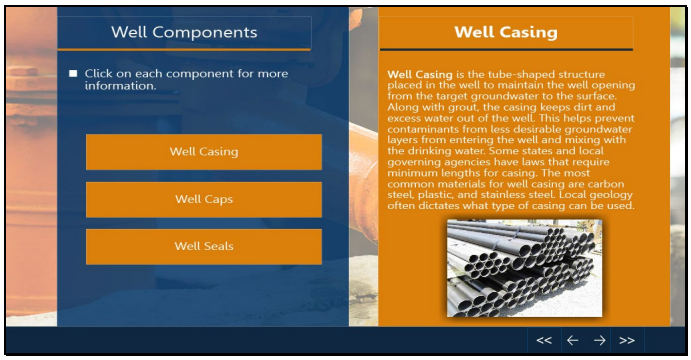
Well Components

Groundwater

Pumps

Tanks

Well Diagram



Well Components

Click on each component for more information.

Well Casing

Well Caps

Well Seals

Well Casing

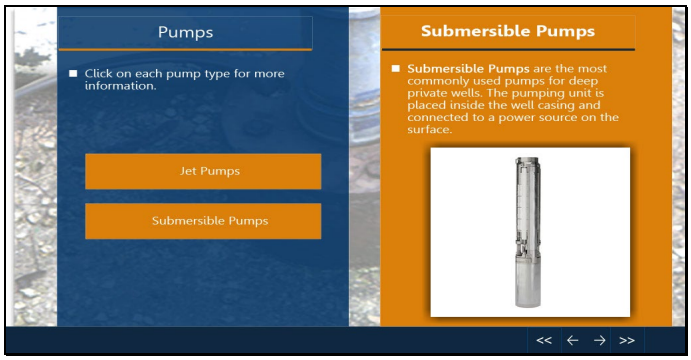
Well Casing is the tube-shaped structure placed in the well to maintain the well opening from the target groundwater to the surface. Along with grout, the casing keeps dirt and excess water out of the well. This helps prevent contaminants from less desirable groundwater layers from entering the well and mixing with the drinking water. Some states and local governing agencies have laws that require minimum lengths for casing. The most common materials for well casing are carbon steel, plastic, and stainless steel. Local geology often dictates what type of casing can be used.

Well Caps

Well Caps are placed on top of the well casing to prevent debris, insects, or small animals from getting into the well. Well caps are usually made of steel, aluminum, cast iron, or plastic. They include a vent to control pressure during well pumping.

Well Seal

A Well Seal is a removal device used to keep the top of a well casing watertight while permitting penetration of piping, vents, and electrical wiring.



Click on each pump type for more information.

Jet Pumps

Submersible Pumps

Jet Pumps

Jet Pumps are the most commonly used pumps for shallow wells (depth of 25 feet or less). Jet pumps are mounted above ground and use suction to draw water from the well.

A Deep Well Jet Pump is a centrifugal pump on the surface that sends water down to a jet or ejector submerged in the well water. It is necessary for depth that exceeds around 25 feet.

Submersible Pumps

Submersible Pumps are the most commonly used pumps for deep private wells. The pumping unit is placed inside the well casing and connected to a power source on the surface.

Well Tanks

Click on each tank type for more information.

Hydropneumatic Tank

Finished Water Storage Tank

Captive Air Tank

There are two types of Conventional Tanks.

A Finished Water Storage Tank is a container that holds water for industrial or home use for short-term storage. These can be drawn from periodically to meet demand. It is important to balance the storage needs (size) with water quality. If the water is held for more than 3- 5 days, the water quality will degrade by losing the disinfectant residual, forming disinfection byproducts, and potentially causing bacteria growth and biofilm accumulation on wet surfaces.

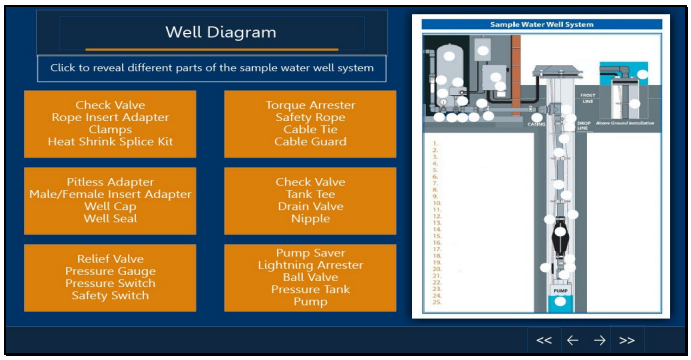
Hydropneumatic Tank

There are two types of Conventional Tanks.

A Hydropneumatic Tank is a type of finished water storage tank that is designed to store water under pressure. These tanks provide efficient water supply by regulating system pressures to quickly meet demand. These tanks do not provide fire protection (due to their small volume), and prevent the pump from cycling too often.

Captive Air Tank

A Captive Air Tank is similar to a hydropneumatic tank, but incorporates an internal, replaceable air bladder to introduce pressure to the water inside of the tank. The air volume control helps regulate system pressure to provide water supply at specific times of demand.



Well Diagram

Click to reveal different parts of the sample water well system

Check Valve

Rope Insert Adapter

Clamps

Heat Shrink Splice Kit

Pitless Adapter

Male/Female Insert Adapter

Well Cap

Well Seal

Relief Valve

Pressure Gauge

Pressure Switch

Safety Switch

Torque Arrester

Safety Roper

Cable Tie

Cable Guard

Check Valve

Tank Tee

Drain Valve

Nipple

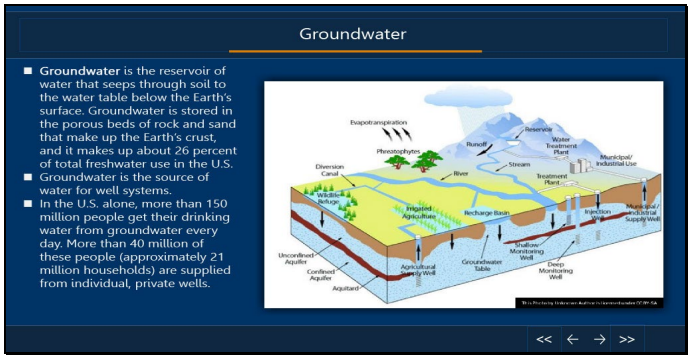
Pump Saver

Lightning Arrester

Ball Valve

Pressure Tank

Pump



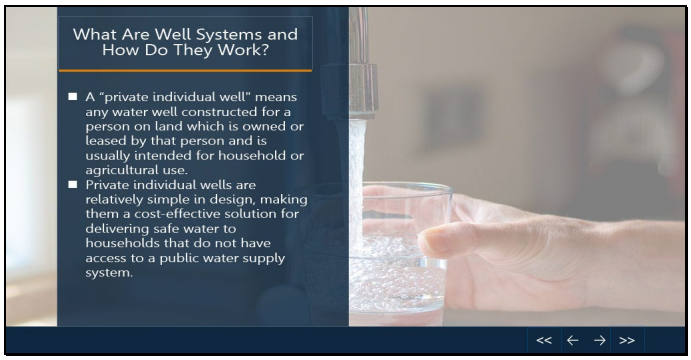
Groundwater

Groundwater is the reservoir of water that seeps through soil to the water table below the Earth's surface. Groundwater is stored in the porous beds of rock and sand that make up the Earth's crust, and it makes up about 26 percent of total freshwater use in the U.S.

Groundwater is the source of water for well systems.

In the U.S. alone, more than 150 million people get their drinking water from groundwater every day. More than 40 million of these people (approximately 21 million households) are supplied from individual, private wells.

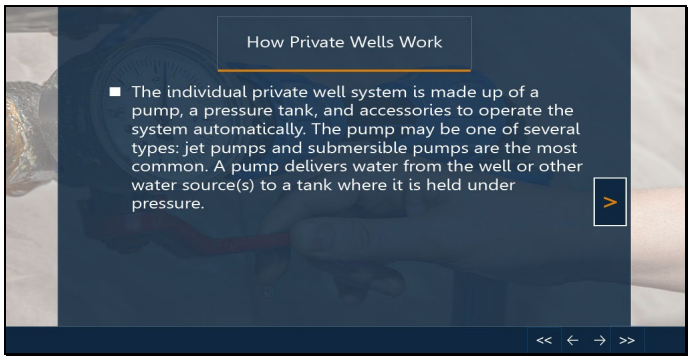
Subchapter 1.3: What Are Well Systems and How Do They Work?



What Are Well Systems and How Do They Work?

A "private individual well" means any water well constructed for a person on land which is owned or leased by that person and is usually intended for household or agricultural use.

Private individual wells are relatively simple in design, making them a cost-effective solution for delivering safe water to households that do not have access to a public water supply system.

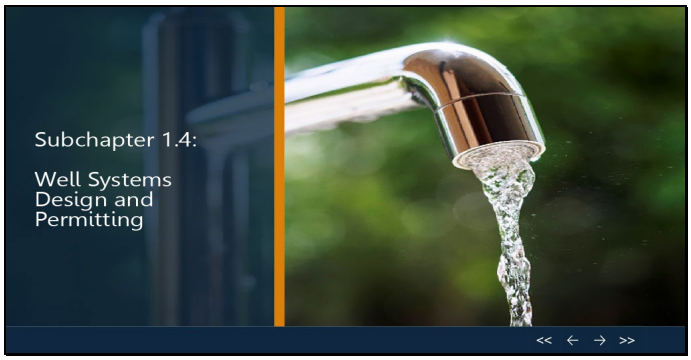


How Private Wells Work

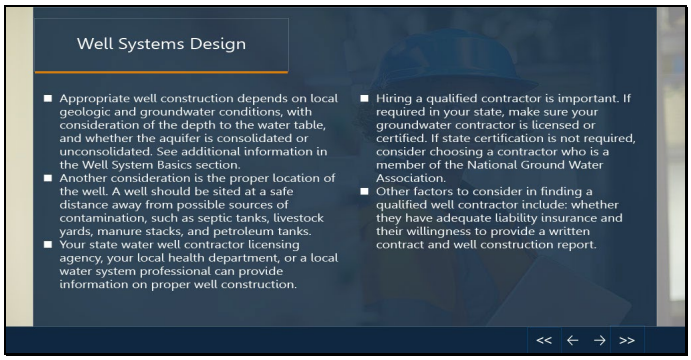
The individual private well system is made up of a pump, a pressure tank, and accessories to operate the system automatically. The pump may be one of several types: jet pumps and submersible pumps are the most common. A pump delivers water from the well or other water source(s) to a tank where it is held under pressure.

Licensed water well professionals are required for the installation of individual private wells.

Show Diagram



Subchapter 1.4: Well Systems Design and Permitting



Well Systems Design

Appropriate well construction depends on local geologic and groundwater conditions, with consideration of the depth to the water table, and whether the aquifer is consolidated or unconsolidated. See additional information in the Well System Basics section.

Another consideration is the proper location of the well. A well should be sited at a safe distance away from possible sources of contamination, such as septic tanks, livestock yards, manure stacks, and petroleum tanks.

Your state water well contractor licensing agency, your local health department, or a local water system professional can provide information on proper well construction.

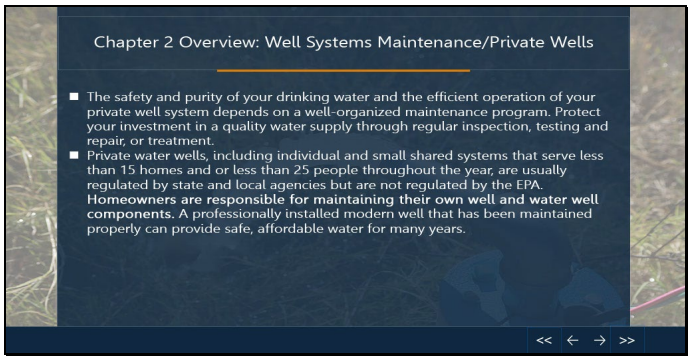
Hiring a qualified contractor is important. If required in your state, make sure your groundwater contractor is licensed or certified. If state certification is not required, consider choosing a contractor who is a member of the National Ground Water Association.

Other factors to consider in finding a qualified well contractor include: whether they have adequate liability insurance and their willingness to provide a written contract and well construction report.

Permitting

For an individual well, the homeowner or his/her representative typically secures permits required by the local government or health agency. A licensed well contractor can tell the owner what agencies to contact and what fees must be paid. The contractor coordinates site visits by inspectors and construction activities.

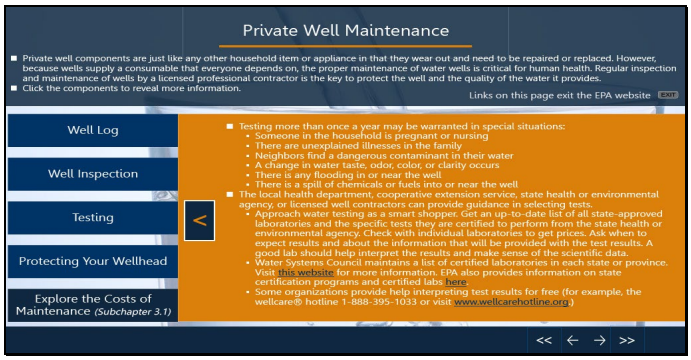
Chapter 2: Well Systems Maintenance/Private Wells



Chapter 2 Overview: Well Systems Maintenance/Private Wells

The safety and purity of your drinking water and the efficient operation of your private well system depends on a well-organized maintenance program. Protect your investment in a quality water supply through regular inspection, testing and repair, or treatment.

Private water wells, including individual and small shared systems that serve less than 15 homes and or less than 25 people throughout the year, are usually regulated by state and local agencies but are not regulated by the EPA. Homeowners are responsible for maintaining their own well and water well components. A professionally installed modern well that has been maintained properly can provide safe, affordable water for many years.



Private Well Maintenance

Private well components are just like any other household item or appliance in that they wear out and need to be repaired or replaced. However, because wells supply a consumable that everyone depends on, the proper maintenance of water wells is critical for human health. Regular inspection and maintenance of wells by a licensed professional contractor is the key to protect the well and the quality of the water it provides.

Click the components to reveal more information.

Well Log

Well Inspection

Testing

Protecting Your Wellhead

Explore the Costs of Maintenance (Subchapter 3.1)

Well Log

Gather a comprehensive history on the well and its water quality. If there isn't already a well log (also known as a water well record or drilling report), the licensed well contractor or state environmental agency may have a copy.

The well log will include a reference number for the well, original site owner, location of the well, construction and contractor details, as well as the results from any water and yield tests. The well log should help establish the location, age, and condition of the well. This information will provide the basis on which to schedule regular tests of water quality and inspections of well equipment, as well as regular maintenance and repairs.

An example of a well log can be found here (https://appswr.ecology.wa.gov/wellconstruction/map/WCLSWebMap/WellLogSearchResult.aspx?imageName=00427190.tif&region=SWRO&folder=00433&xcoord=1234896&ycoord=677382&search_scope=&result_num=10&welllogid=427190).

Well Inspection

Annual well inspection and testing by a water well professional is the best way to monitor your well for any problems. The condition of the well covering, casing, and well cap should all be checked to make sure they are in good repair, leaving no cracks or other entry points for potential pollutants. Inspections can reveal mechanical problems including rusting tanks, leaking seals, or bad valves and gauges that can cause problems or contaminate water.

The average cost of a well inspection (https://www.thumbtack.com/p/well-inspection-cost) is $300 to $500, and depends on the hourly rates of the inspector, the tests done to determine water quality, and any discounts if the well inspection is coupled with a septic inspection.

Testing

Regular water testing is an important maintenance tool to keep well water clean and pure and the well operating at peak performance.

Many sources including the EPA, the CDC, and state health agencies recommend that well water should be tested every year for bacteria, the most common water quality problem. Other tests may also be needed, depending on the location of the water supply.

If a well is located in an agricultural area or has an on-site septic system, recommendations call for annual testing. The best time to perform these annual tests is in the spring.

Home well water test kits are available at hardware stores and online and typically cost around $25 for a multi-contaminant kit. University, government, and private labs are available to test well water quality, with costs ranging from $50 to $500 depending on the lab and the range of contaminants tested.

Testing more than once a year may be warranted in special situations:

- Someone in the household is pregnant or nursing
- There are unexplained illnesses in the family
- Neighbors find a dangerous contaminant in their water
- A change in water taste, odor, color, or clarity occurs
- There is any flooding in or near the well
- There is a spill of chemicals or fuels into or near the well
- The local health department, cooperative extension service, state health or environmental agency, or licensed well contractors can provide guidance in selecting tests.

Approach water testing as a smart shopper. Get an up-to-date list of all state-approved laboratories and the specific tests they are certified to perform from the state health or environmental agency. Check with individual laboratories to get prices. Ask when to expect results and about the information that will be provided with the test results. A good lab should help interpret the results and make sense of the scientific data.

Water Systems Council maintains a list of certified laboratories in each state or province. Visit this website (https://www.watersystemscouncil.org/water-well-help/water-testing-by-state/) for more information. EPA also provides information on state certification programs and certified labs here (https://www.epa.gov/dwlabcert/contact-information-certification-programs-and-certified-laboratories-drinking-water#state-labs).

Some organizations provide help interpreting test results for free (for example, the wellcare® hotline 1-888-395-1033 or visit https://wellcarehotline.org/.)

Protecting Your Wellhead

The wellhead protects the well casing, which is the lining of the well, and the well cap, which provides a tight-fitting seal at the top of the well. The wellhead is the first line of defense to prevent pollutants from penetrating the drinking water system.

The well cap seals the upper end of the well to prevent contaminants from entering. The watertight well cap covers and encloses the top of the well casing, while the top of the cap can be removed to service the well.

The well cap protects the exposed portion of the well casing, forms a protective cover from the elements, and bars the entry of vermin or contaminants. It also should be tamper resistant.

The well casing and well cap should extend at least 12 inches above the ground. If a well is near a river or stream, it should extend at least higher than historic flood levels to prevent overflows from contaminating the drinking water.

A variety of high quality, watertight well caps are approved by the industry. Water well professionals should only use well caps that meet industry standards. PAS-97(4) is an industry standard for well caps. A listing of equipment that meets this standard is available on the Water Systems Council website (https://www.watersystemscouncil.org/pas-97-listing-fees/).

A brief that describes the standards is available from the Water Systems Council (https://www.watersystemscouncil.org/wp-content/uploads/2014/04/WSCBooklet2013printorder.pdf).

In addition to a high quality well cap seal, it is important to remember that substances that can contaminate the groundwater should not be stored near the wellhead. For example, pesticides or fertilizers and gasoline or other fuels should

be stored away from the wellhead. Inspect the area upgradient of the wellhead for these potential sources of contamination and move them to another location.

Consult your state's Source Water program to see if they have developed best practices for wellhead protection.

Explore the Costs of Maintenance (Subchapter 3.1)

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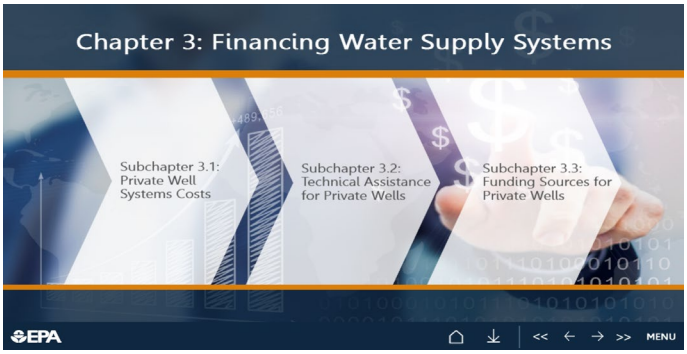


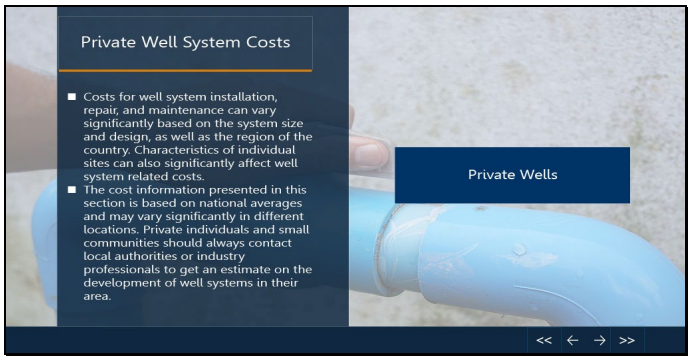
Chapter 3: Financing Water Supply Systems

Subchapter 3.1: Private Well Systems Costs

Subchapter 3.2: Technical Assistance for Private Wells

Subchapter 3.3: Funding Sources for Private Wells

Subchapter 3.1: Private Well Systems Costs



Private Well System Costs

Costs for well system installation, repair, and maintenance can vary significantly based on the system size and design, as well as the region of the country. Characteristics of individual sites can also significantly affect well system related costs.

The cost information presented in this section is based on national averages and may vary significantly in different locations. Private individuals and small communities should always contact local authorities or industry professionals to get an estimate on the development of well systems in their area.

Private Wells

Private Wells

The cost of new installation (https://home.costhelper.com/well-drilling.html) is highly variable depending on site conditions, local regulations, and type of system installed. Deeper wells that have more complex systems capable of larger water yield are often more expensive. The estimated costs below include materials, labor, permits, and local geological conditions, which can often play a large role in cost variability.

An average cost range in 2019 for a private well system installation was approximately $4,000 to $60,000.

Average Costs by State

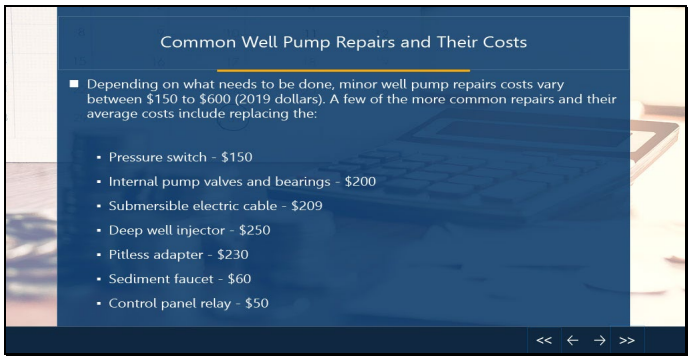
Maintenance and Repair

Well Pump Motors and Pressure Tanks

Explore Operation and Maintenance Costs

Average Installation Cost for Select States

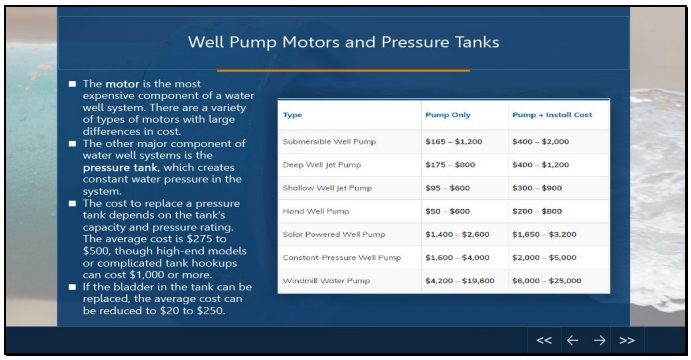
State	Low	High
Arkansas	$4,500	$16,000
California	$9,500	$60,000
Georgia	$4,000	$8,700
Minnesota	$6,500	$20,000
Montana	$9,000	$50,000
New Mexico	$8,500	$20,000
New York	$8,000	$13,000
South Carolina	$3,500	$11,000



Common Well Pump Repairs and Their Costs

Depending on what needs to be done, minor well pump repairs costs vary between $150 to $600 (2019 dollars). A few of the more common repairs and their average costs include replacing the:

- Pressure switch - $150
- Internal pump valves and bearings - $200
- Submersible electric cable - $209
- Deep well injector - $250
- Pitless adapter - $230
- Sediment faucet - $60
- Control panel relay - $50



Well Pump Motors and Pressure Tanks

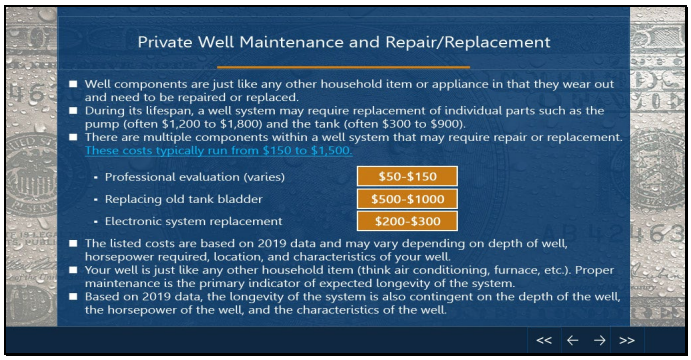
The motor is the most expensive component of a water well system. There are a variety of types of motors with large differences in cost.

The other major component of water well systems is the pressure tank, which creates constant water pressure in the system.

The cost to replace a pressure tank depends on the tank's capacity and pressure rating. The average cost is $275 to $500, though high-end models or complicated tank hookups can cost $1,000 or more.

If the bladder in the tank can be replaced, the average cost can be reduced to $20 to $250.

Type	Pump Only	Pump + Install Cost
Submersible Well Pump	$165-$1,200	$400-$2,000
Deep Well Jet Pump	$175-$800	$400-$1,200
Shallow Well Jet Pump	$95-$600	$300-$900
Hand Well Pump	$50-$600	$200-$800
Solar Powered Well Pump	$1,400-$2,600	$1,650-$3,200
Constant-Pressure Well Pump	$1,600-$4,000	$2,000-$5,000
Windmill Water Pump	$4,200-$19,600	$6,000-$25,000



Private Well Maintenance and Repair/Replacement

Well components are just like any other household item or appliance in that they wear out and need to be repaired or replaced.

During its lifespan, a well system may require replacement of individual parts such as the pump (often $1,200 to $1,800) and the tank (often $300 to $900).

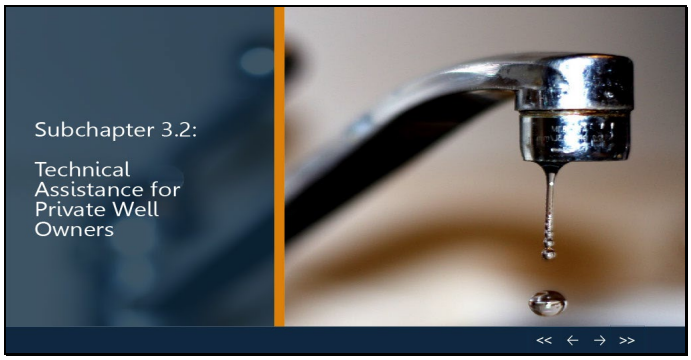
There are multiple components within a well system that may require repair or replacement. These costs typically run from $150 to $1,500 (https://www.localplumbingquotes.com/).

- Professional evaluation (varies) - $50-$150
- Replacing old tank bladder - $500-$1000
- Electronic system replacement - $200-$300

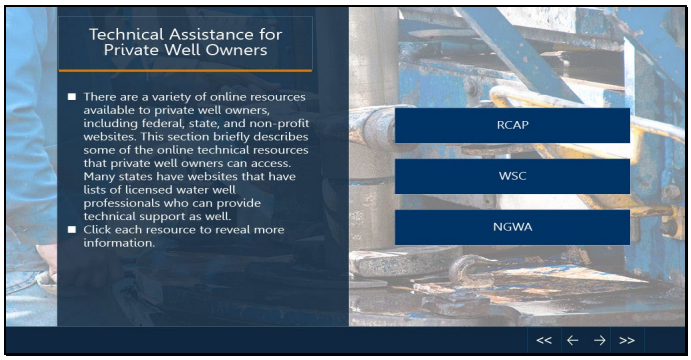
The listed costs are based on 2019 data and may vary depending on depth of well, horsepower required, location, and characteristics of your well.

Your well is just like any other household item (think air conditioning, furnace, etc.). Proper maintenance is the primary indicator of expected longevity of the system.

Based on 2019 data, the longevity of the system is also contingent on the depth of the well, the horsepower of the well, and the characteristics of the well.



Subchapter 3.2: Technical Assistance for Private Well Owners



Technical Assistance for Private Well Owners

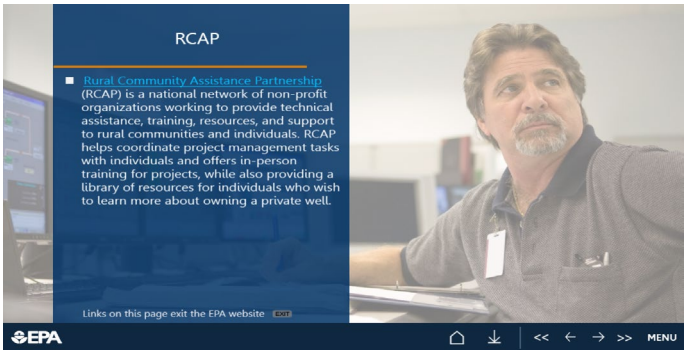
There are a variety of online resources available to private well owners, including federal, state, and non-profit websites. This section briefly describes some of the online technical resources that private well owners can access. Many states have websites that have lists of licensed water well professionals who can provide technical support as well.

Click each resource to reveal more information.

RCAP

WSC

NGWA



RCAP

Rural Community Assistance Partnership (RCAP) (https://www.rcap.org/) is a national network of non-profit organizations working to provide technical assistance, training, resources, and support to rural communities and individuals. RCAP helps coordinate project management tasks with individuals and offers in-person training for projects, while also providing a library of resources for individuals who wish to learn more about owning a private well.

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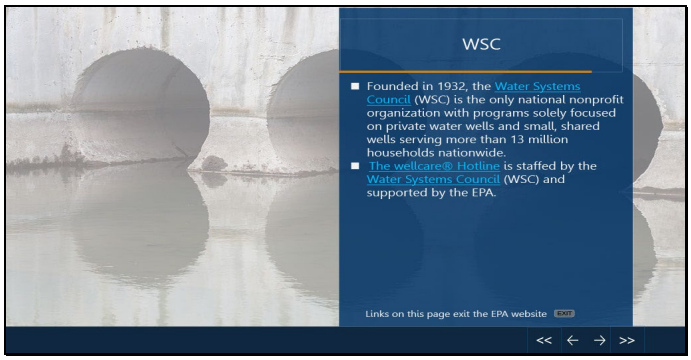

WSC

Founded in 1932, the Water Systems Council (WSC) (https://www.watersystemscouncil.org/) is the only national nonprofit organization with programs solely focused on private water wells and small, shared wells serving more than 13 million households nationwide.

The wellcare® Hotline (https://wellcarehotline.org/) is staffed by the Water Systems Council (WSC) (https://www.watersystemscouncil.org/) and supported by the EPA.

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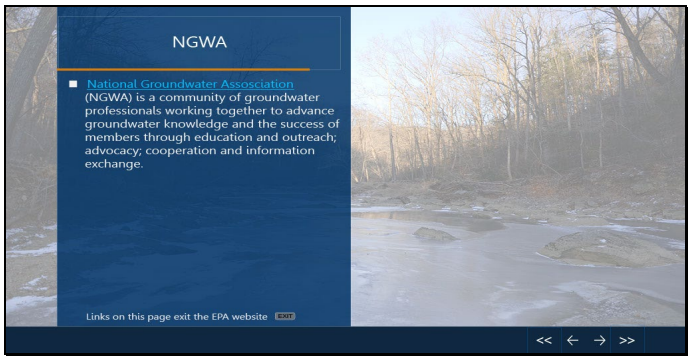

NGWA

National Groundwater Association (NGWA) (https://www.ngwa.org/) is a community of groundwater professionals working together to advance groundwater knowledge and the success of members through education and outreach; advocacy; cooperation and information exchange.

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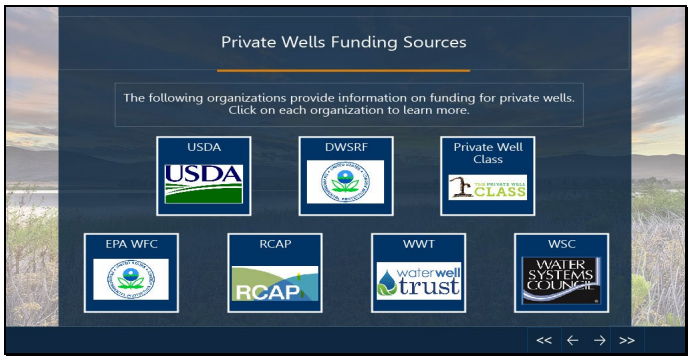
Subchapter 3.3: Funding Sources for Private Wells



Private Wells Funding Sources

The following organizations provide information on funding for private wells.

Click on each organization to learn more.

USDA

DWSRF

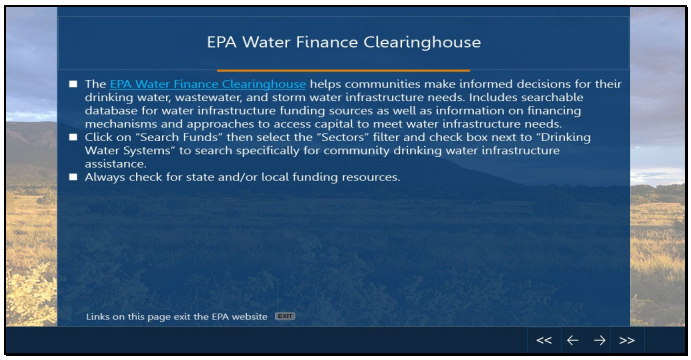
Private Well Class

EPA WFC

RCAP

WWT

WSC



EPA Water Finance Clearinghouse

The EPA Water Finance Clearinghouse (https://ordspub.epa.gov/ords/wfc/f?p=165:3:::NO:3::) helps communities make informed decisions for their drinking water, wastewater, and storm water infrastructure needs. Includes searchable database for water infrastructure funding sources as well as information on financing mechanisms and approaches to access capital to meet water infrastructure needs.

Click on "Search Funds" then select the "Sectors" filter and check box next to "Drinking Water Systems" to search specifically for community drinking water infrastructure assistance.

Always check for state and/or local funding resources.

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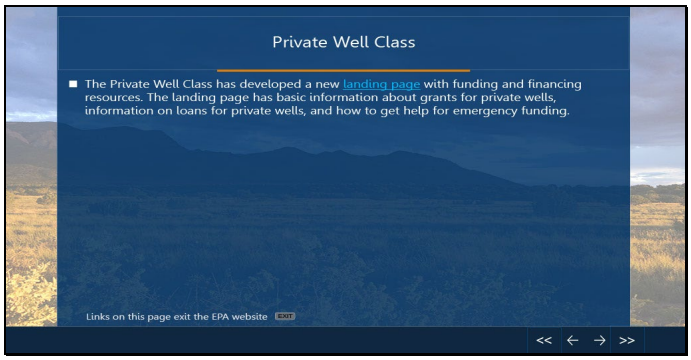

Private Well Class

The Private Well Class has developed a new landing page (https://privatewellclass.org/funding?mc_cid=aafe17cf3e&mc_eid=bd3f499dea&mc_cid=aafe17cf3e&mc_eid=bd3f499dea) with funding and financing resources. The landing page has basic information about grants for private wells, information on loans for private wells, and how to get help for emergency funding.

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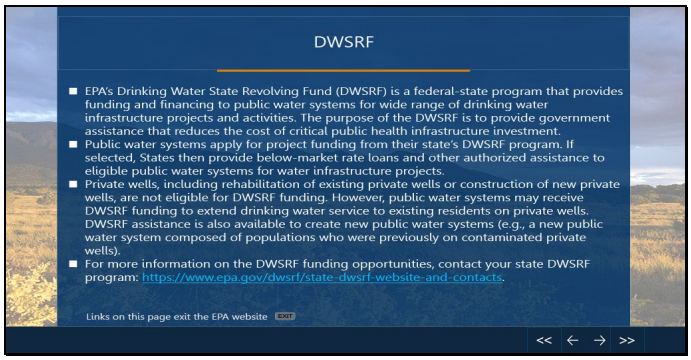

DWSRF

EPA's Drinking Water State Revolving Fund (DWSRF) is a federal-state program that provides funding and financing to public water systems for wide range of drinking water infrastructure projects and activities. The purpose of the DWSRF is to provide government assistance that reduces the cost of critical public health infrastructure investment.

Public water systems apply for project funding from their state's DWSRF program. If selected, States then provide below-market rate loans and other authorized assistance to eligible public water systems for water infrastructure projects.

Private wells, including rehabilitation of existing private wells or construction of new private wells, are not eligible for DWSRF funding. However, public water systems may receive DWSRF funding to extend drinking water service to existing residents on private wells. DWSRF assistance is also available to create new public water systems (e.g., a new public water system composed of populations who were previously on contaminated private wells).

For more information on the DWSRF funding opportunities, contact your state DWSRF program: https://www.epa.gov/dwsrf/state-dwsrf-website-and-contacts.

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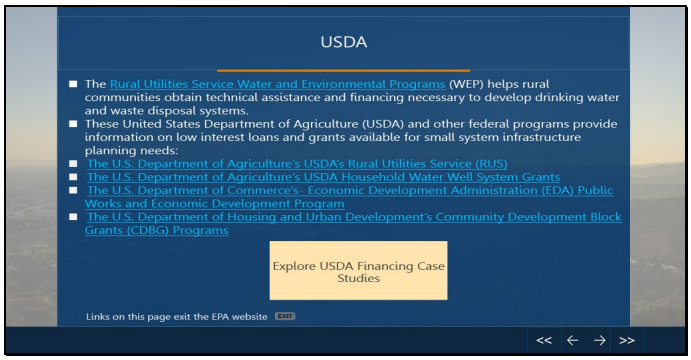

USDA

The Rural Utilities Service Water and Environmental Programs (WEP) (https://www.rd.usda.gov/programs-services/water-environmental-programs) helps rural communities obtain technical assistance and financing necessary to develop drinking water and waste disposal systems.

These United States Department of Agriculture (USDA) and other federal programs provide information on low interest loans and grants available for small system infrastructure planning needs:

The U.S. Department of Agriculture's USDA's Rural Utilities Service (RUS) (https://www.rd.usda.gov/about-rd/agencies/rural-utilities-service)

The U.S. Department of Agriculture's USDA Household Water Well System Grants (https://www.rd.usda.gov/programs-services/water-environmental-programs/rural-decentralized-water-systems-grant-program)

The U.S. Department of Commerce's- Economic Development Administration (EDA) Public Works and Economic Development Program (https://www.eda.gov/)

The U.S. Department of Housing and Urban Development's Community Development Block Grants (CDBG) Programs (https://www.hud.gov/program_offices/comm_planning/communitydevelopment)

Explore USDA Financing Case Studies

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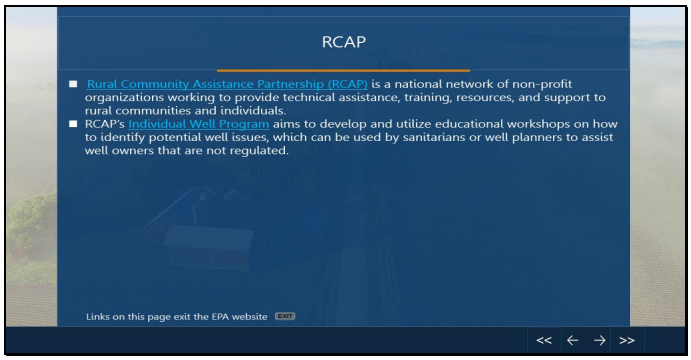

RCAP

Rural Community Assistance Partnership (RCAP) (https://www.rcap.org/)is a national network of non-profit organizations working to provide technical assistance, training, resources, and support to rural communities and individuals.

RCAP's Individual Well Program (https://www.rcapsolutions.org/private-wells/) aims to develop and utilize educational workshops on how to identify potential well issues, which can be used by sanitarians or well planners to assist well owners that are not regulated.

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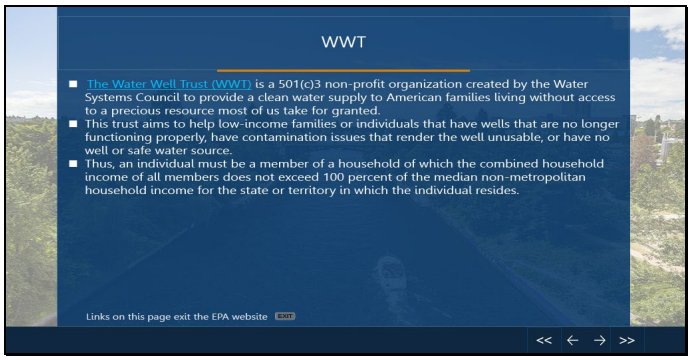

WWT

The Water Well Trust (WWT) (https://www.waterwelltrust.org/) is a 501(c)3 non-profit organization created by the Water Systems Council to provide a clean water supply to American families living without access to a precious resource most of us take for granted.

This trust aims to help low-income families or individuals that have wells that are no longer functioning properly, have contamination issues that render the well unusable, or have no well or safe water source.

Thus, an individual must be a member of a household of which the combined household income of all members does not exceed 100 percent of the median non-metropolitan household income for the state or territory in which the individual resides.

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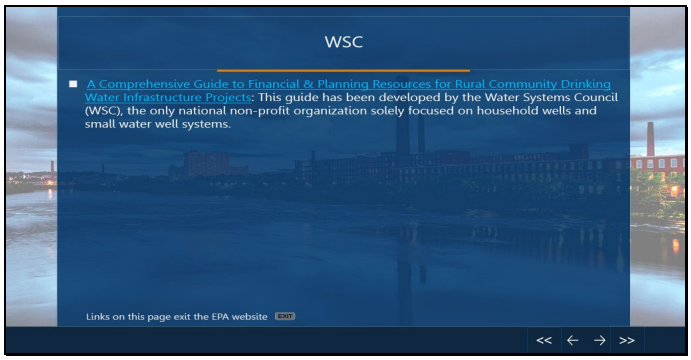

WSC

A Comprehensive Guide to Financial & Planning Resources for Rural Community Drinking Water Infrastructure Projects (https://waterprojectfunds.com/): This guide has been developed by the Water Systems Council (WSC), the only national non-profit organization solely focused on household wells and small water well systems.

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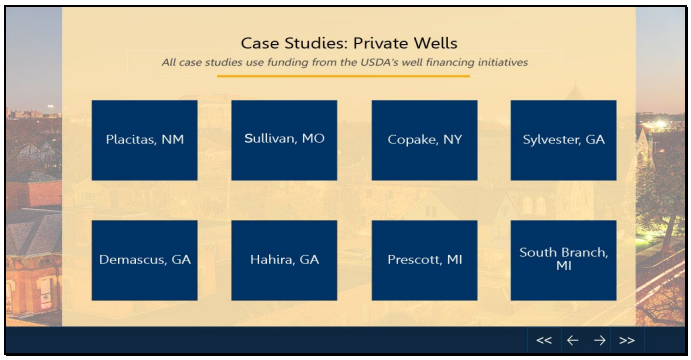


Case Studies: Private Wells

All case studies use funding from the USDA's well financing initiatives

Placitas, NM

Sullivan, MO

Copake, NY

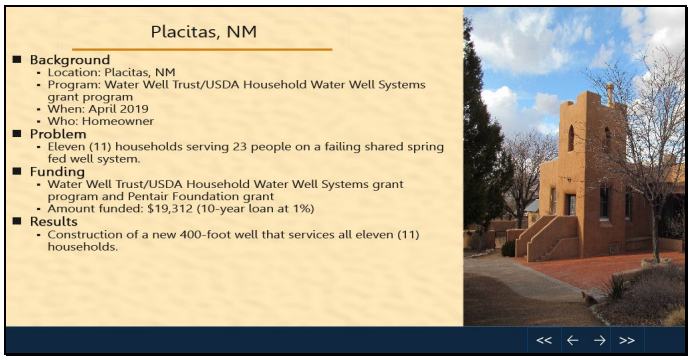
Sylvester, GA

Demascus, GA

Hahira, GA

Prescott, MI

South Branch, MI



Placitas, NM

Background

- Location: Placitas, NM
- Program: Water Well Trust/USDA Household Water Well Systems grant program
- When: April 2019
- Who: Homeowner

Problem

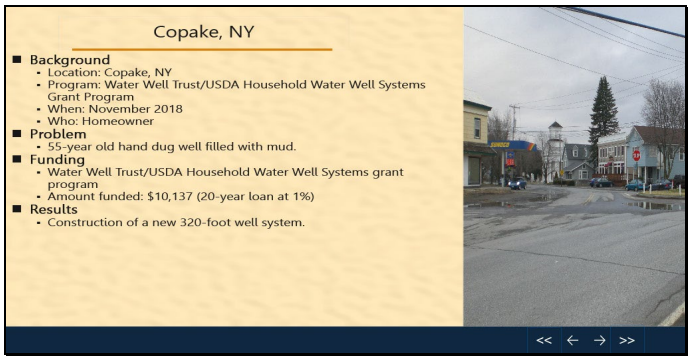
- Eleven (11) households serving 23 people on a failing shared spring fed well system.

Funding

- Water Well Trust/USDA Household Water Well Systems grant program and Pentair Foundation grant
- Amount funded: $19,312 (10-year loan at 1%)

Results

- Construction of a new 400-foot well that services all eleven (11) households.



Copake, NY

Background

- Location: Copake, NY
- Program: Water Well Trust/USDA Household Water Well Systems Grant Program
- When: November 2018
- Who: Homeowner

Problem

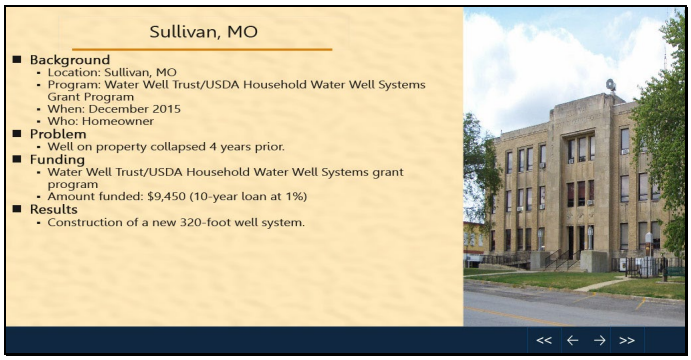
- 55-year old hand dug well filled with mud.

Funding

- Water Well Trust/USDA Household Water Well Systems grant program
- Amount funded: $10,137 (20-year loan at 1%)

Results

- Construction of a new 320-foot well system.



Sullivan, MO

Background

- Location: Sullivan, MO
- Program: Water Well Trust/USDA Household Water Well Systems Grant Program
- When: December 2015
- Who: Homeowner

Problem

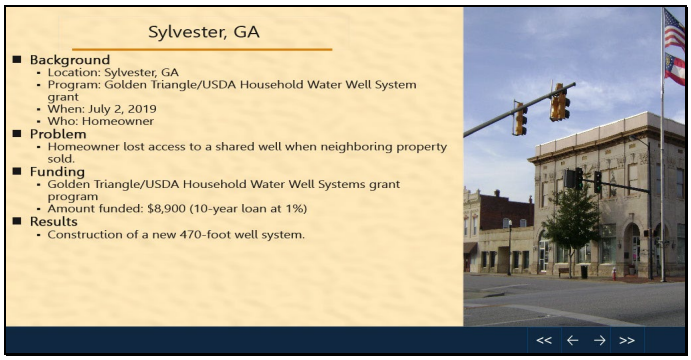
- Well on property collapsed 4 years prior.

Funding

- Water Well Trust/USDA Household Water Well Systems grant program
- Amount funded: $9,450 (10-year loan at 1%)

Results

- Construction of a new 320-foot well system.



Sylvester, GA

Background

- Location: Sylvester, GA
- Program: Golden Triangle/USDA Household Water Well System grant
- When: July 2, 2019
- Who: Homeowner

Problem

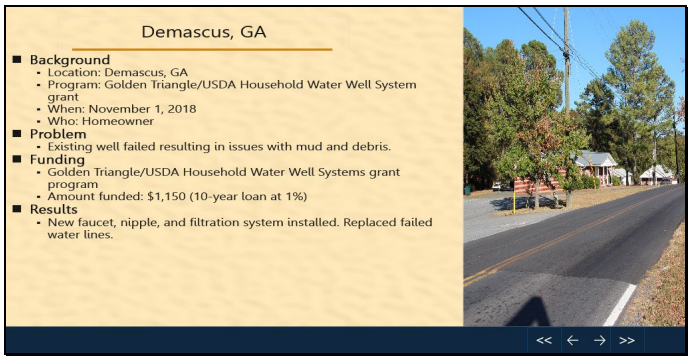
- Homeowner lost access to a shared well when neighboring property sold.

Funding

- Golden Triangle/USDA Household Water Well Systems grant program
- Amount funded: $8,900 (10-year loan at 1%)

Results

- Construction of a new 470-foot well system.



Demascus, GA

Background

- Location: Demascus, GA
- Program: Golden Triangle/USDA Household Water Well System grant
- When: November 1, 2018
- Who: Homeowner

Problem

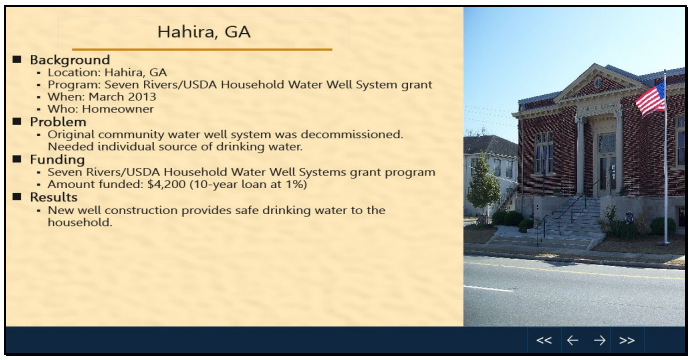
- Existing well failed resulting in issues with mud and debris.

Funding

- Golden Triangle/USDA Household Water Well Systems grant program
- Amount funded: $1,150 (10-year loan at 1%)

Results

- New faucet, nipple, and filtration system installed. Replaced failed water lines.



Hahira, GA

Background

- Location: Hahira, GA
- Program: Seven Rivers/USDA Household Water Well System grant
- When: March 2013
- Who: Homeowner

Problem

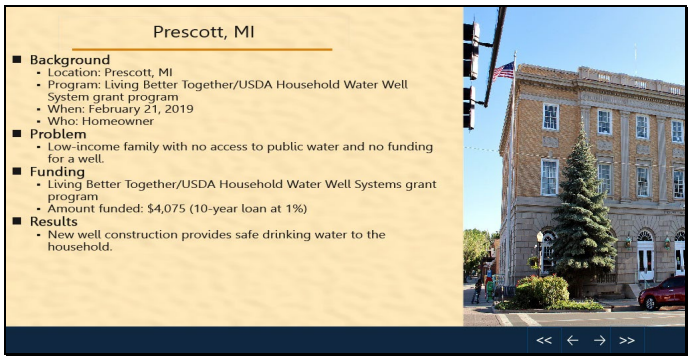
- Original community water well system was decommissioned. Needed individual source of drinking water.

Funding

- Seven Rivers/USDA Household Water Well Systems grant program
- Amount funded: $4,200 (10-year loan at 1%)

Results

- New well construction provides safe drinking water to the household.



Prescott, MI

Background

- Location: Prescott, MI
- Program: Living Better Together/USDA Household Water Well System grant program
- When: February 21, 2019
- Who: Homeowner

Problem

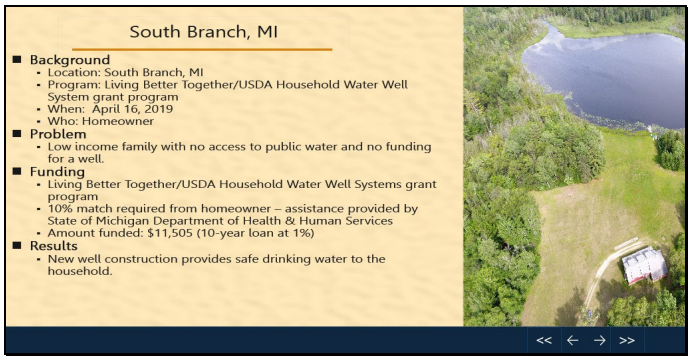
- Low-income family with no access to public water and no funding for a well.

Funding

- Living Better Together/USDA Household Water Well Systems grant program
- Amount funded: $4,075 (10-year loan at 1%)

Results

- New well construction provides safe drinking water to the household.



South Branch, MI

Background

- Location: South Branch, MI
- Program: Living Better Together/USDA Household Water Well System grant program
- When: April 16, 2019
- Who: Homeowner

Problem

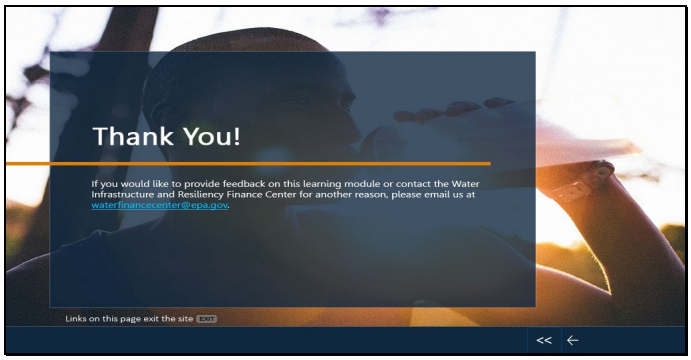
- Low income family with no access to public water and no funding for a well.

Funding

- Living Better Together/USDA Household Water Well Systems grant program
- 10% match required from homeowner – assistance provided by State of Michigan Department of Health & Human Services
- Amount funded: $11,505 (10-year loan at 1%)

Results

- New well construction provides safe drinking water to the household.



Thank You!

If you would like to provide feedback on this learning module or contact the Water Infrastructure and Resiliency Finance Center for another reason, please email us at waterfinancecenter@epa.gov.

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