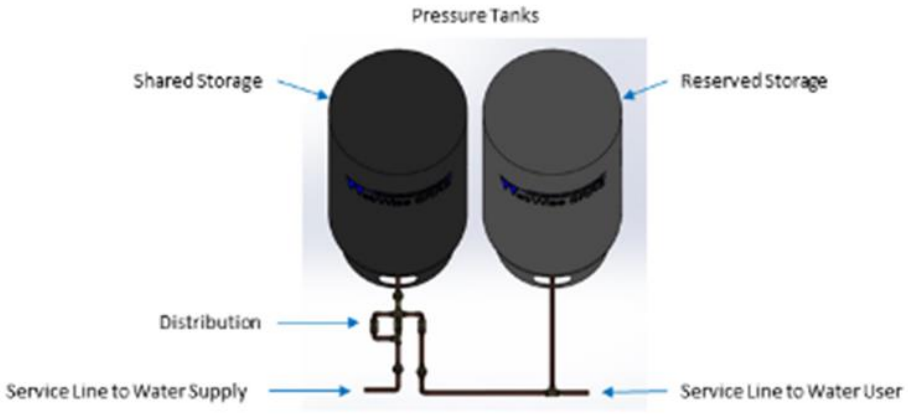
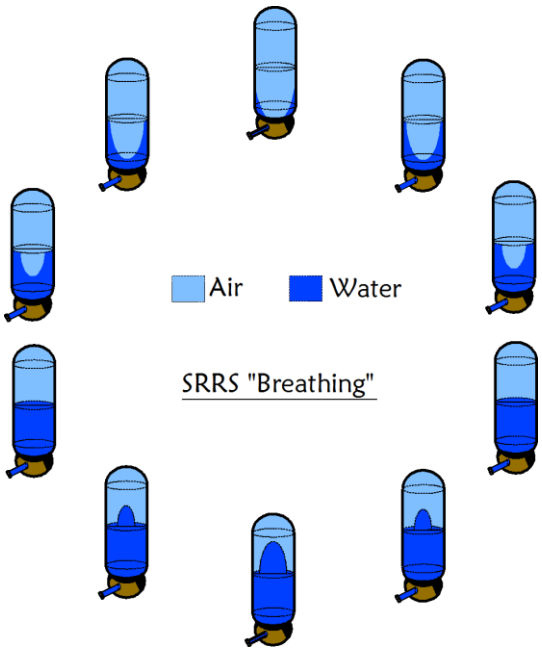
WatrWise SRRS™

Water **S**torage, **R**eserve and **R**eturn **S**ystem



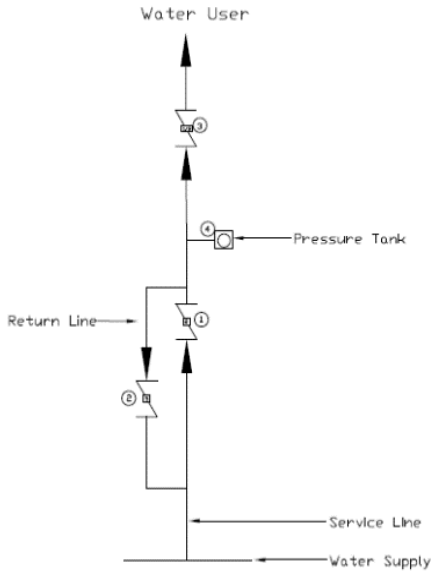
SRRS is simple in the way it works, but hard to describe in simple terms. Basically, pressure point differentials within SRRS allow for water flow to water users or the water supply under varying conditions, automatically.

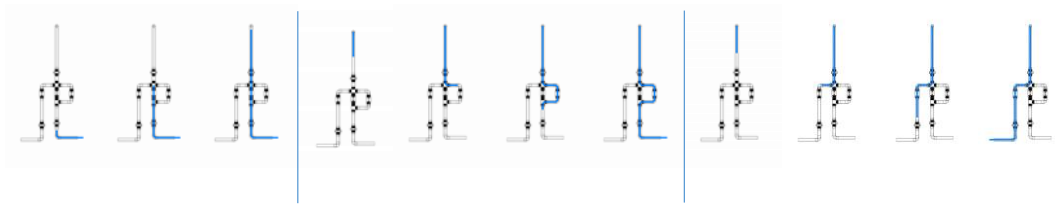
This method and apparatus relates to water supply demand challenges comprising fluctuating water pressure and available water reserves caused by peak water demand requirements, emergency water demand requirements or service or supply interruptions for water supply systems, and more particularly to a water storage, reserve and return method and apparatus for mitigation of same.



Summary:

One analogy to describe said method and apparatus could be like breathing; receiving water from the water supply during normal or relatively higher pressure situations and releasing water to the water supply and/or to the water user during low pressure situations that commonly occur in water systems during peak demand, emergency demand and service or supply interruptions. By assembling pressure tanks and check valves in various configurations said apparatus can be utilized in diverse ways to mitigate water supply demand challenges in many ways.

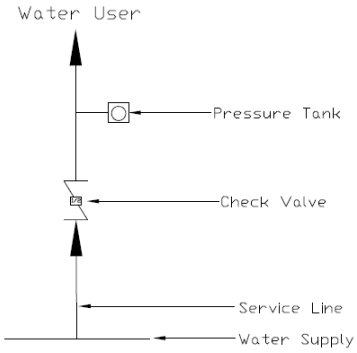




WatrWise SRRS™

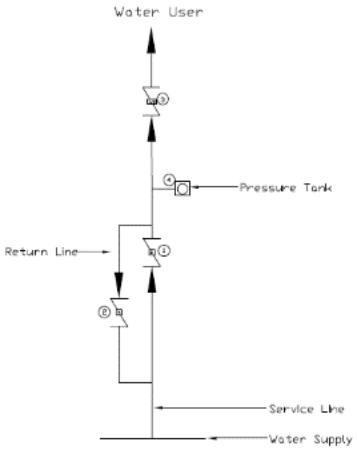
Water Storage, Reserve and Return System

Decentralized Water Storage



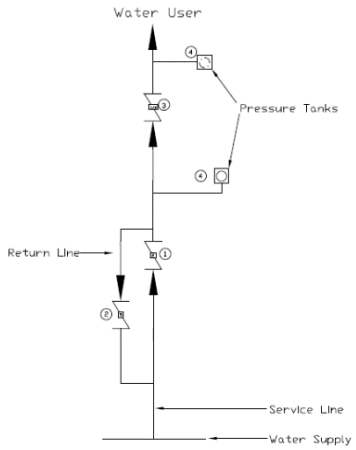
Option 1 – Emergency Water Storage

- Reserved Water Storage
- One Emergency Supply Pressure Tank (or more)
- No Return to Water Supply



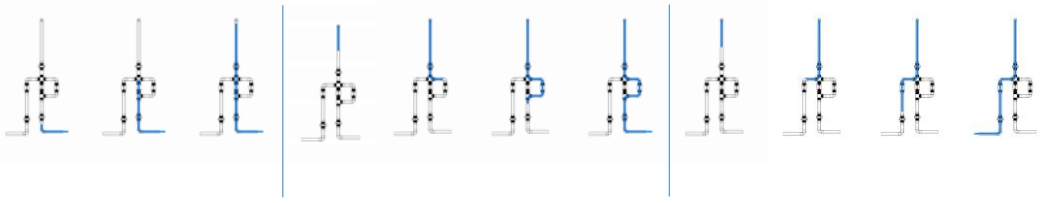
Option 2 – Shared Water Storage

- One shared Pressure Tank (or more)
- Return to Water Supply
- User and Water Supply share Water Storage



Option 3 – Shared & Reserved Water Storage

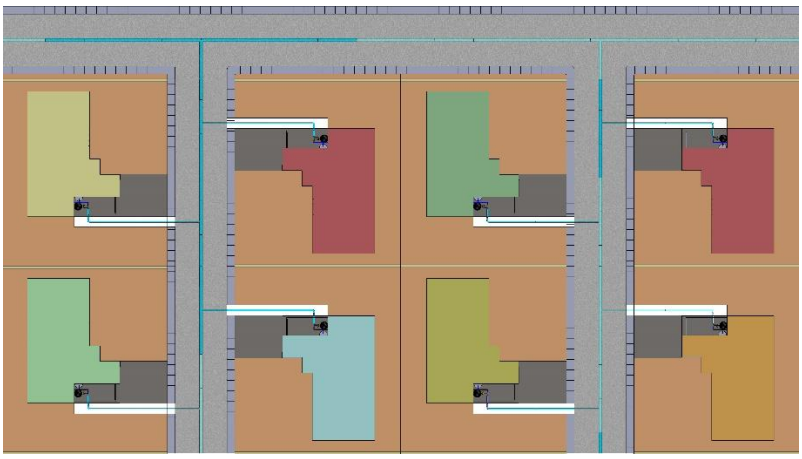
- One Shared Pressure Tank (or more)
- One Water User Reserved Pressure Tank (or more)
- Return to Water Supply
- User and Water Supply share Water Storage (shared pressure tank)
- Multiple shape and size tanks available



WatrWise SRRS™

Water **S**torage, **R**eserve and **R**eturn **S**ystem

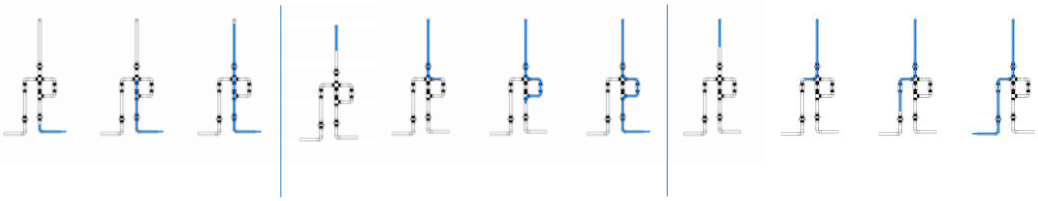
Developed Countries



Large scale use of WatrWise SRRS in developed countries would be beneficial beyond the obvious. For example: by incorporating language requiring installation of said apparatus into plumbing, construction and water system development codes or regulations will, over time, lower costs associated with water system infrastructure development, maintenance and operations. Water utilities, water purveyors, water system operators and water users reap the benefits. Developers would benefit because water infrastructure development costs would decline as apparatus use increases. Utilizing said apparatus throughout water supply and delivery systems would significantly reduce water demand challenges for water suppliers, water utilities, water purveyors and water users, while lowering costs.

If WatrWise SRRS were installed in every home, what will happen during peak demand?

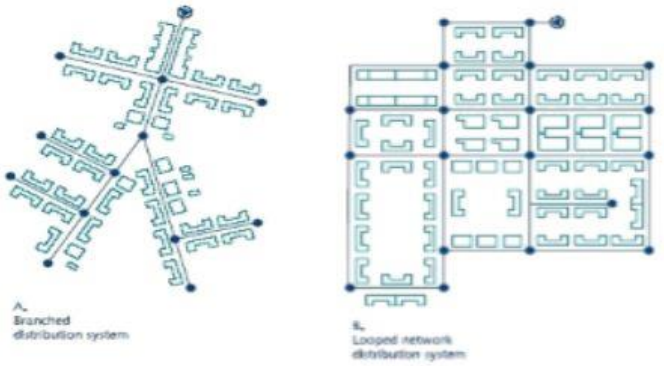
Pressure and flow will remain constant because the instant pressure falls the tanks in the affected area isolate water users while supplying them with pressurized water; allowing supply to catch up with demand. Later, during diurnal low demand, WatrWise SRRS is recharged. If pressure falls more than 5 PSI, SRRS will supplement supply to help stabilize falling pressure. Water is available to Water User as long as water is available from supply. The Water User is never without water unless water supply fails to supply water.



WatrWise SRRS™

Water Storage, Reserve and Return System

Developing Countries



Water Storage Collectives – Sharing Water

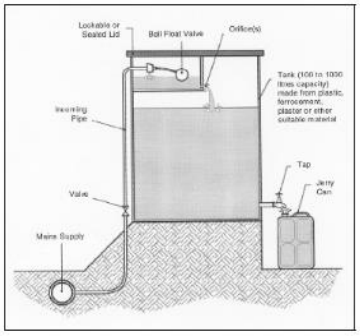


Figure 2 – Yard Tank with Trickle Feed Box

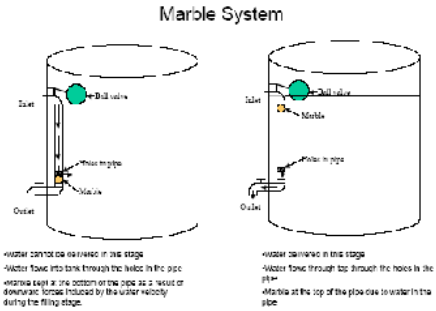


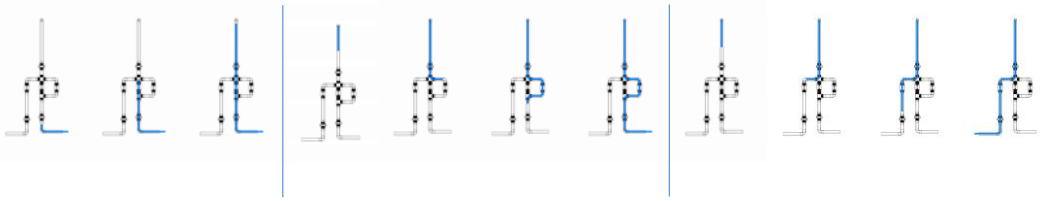
Figure 7 – Marble System

Replace Archaic Non-Pressurized Water Storage with WatrWise SRRS

Piped water systems using trickle feed Yard Tanks do not store water under pressure and cannot share water between tanks. Replacing them with WatrWise SRRS would improve access to water by increasing availability of pressurized water throughout a community. Lowering hauling distances and improving access to water.

Installing a network of pipe connecting multiple WatrWise SRRS and shared taps throughout a community will effectively improve access to water. Creating water storage and sharing collectives, or decentralized water storage/taps. Extending the piping network into homes by installing a tap is the next step. Incidence of water borne illness is reduced because water is delivered through a piped (closed) system. Whenever possible, continuing to install WatrWise SRRS into homes will increase water collective storage and mitigate peak demand challenges as tanks refill during diurnal low demand. The time has come to move beyond hand pumps and trickle feed Yard Tanks.

Recommended Reading: Piped water vs handpump systems & More energy into water



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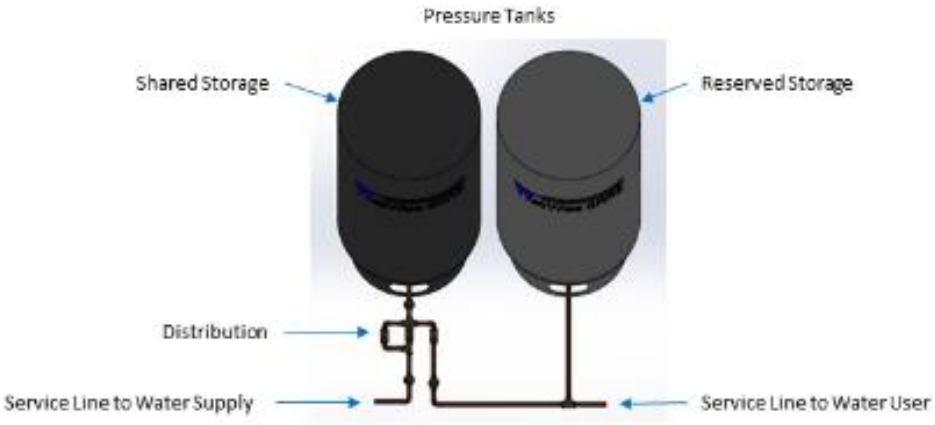


SRRS is simple in the way it works, but hard to describe in simple terms. Basically, pressure point differentials within SRRS allow for water flow to water users or the water supply under varying conditions, automatically.

Frequently Asked Questions

•What is the Storage capacity of the SRRS?

–Storage Tanks come in all shapes and sizes. For use in your home we recommend that SRRS Storage have a capacity of between 25 and 50 Gallons (≈100 - 200 liters) depending on pressure point settings of Distribution Device and Storage Tank pressure settings.

–Storage Tanks of this capacity are typically the size of a (hot) water heater, approximately 24 inches (61cm) in diameter and approximately 60 inches tall (152 cm).

–Remember Storage Tanks can be added to increase storage capacity, or a larger Storage Tank may be selected.

–Also remember that additional Storage Tank can be reserved for the Water User ONLY.

•What are the power requirements for SRRS?

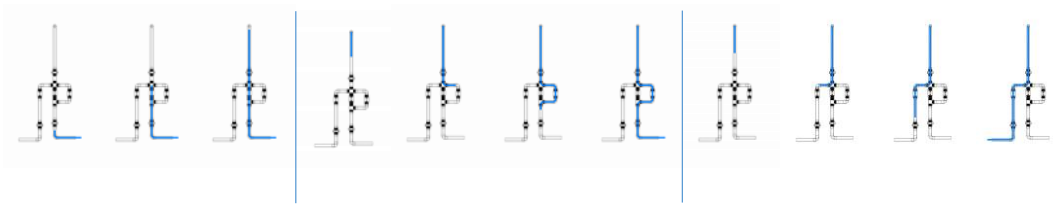
–There are no power requirements for SRRS!

–SRRS needs NO power to operate.

•What about Backflow Prevention, is SRRS affected by Backflow Prevention Codes?

–The answer is complex… No and Yes! … SRRS is a closed system therefore not a risk for contamination of Water Supply.

–SRRS is intended to be installed before any backflow devices. Backflow Regulations would need to be interpreted to include SRRS as part of Water Supply's closed system. (There is a lot of work to do here!)



WatrWise SRRS™

Water Storage, Reserve and Return System

•How much does an SRRS cost?

–Presently (SRRS is in development) estimated cost for SRRS "installed" in USA is between $500.00 and $1000.00 using the recommendations described above. Depending on whether you do the work yourself or hire a plumbing contractor to do the work. Also Costs change with added Storage. The price range above could include one additional Storage Device for use as described above.

–Other factors could include water Service Line location in relation to area of installation of SRRS.

SRRS Applications

•Reserved water storage for use by Water Users during Water Supply service interruptions

–Service Interruptions may include: Repairs to Water Supply, maintenance for Water Supply; pumps and miscellaneous equipment, flushing of water lines…, catastrophe; earthquake, hurricane, flood, fire, terrorist attack…

•Reserve and Deliver water to Water User during Peak Demand/Low Pressure

•Deliver water to Water Supply during Emergency Demand (fire for example) or Peak Demand/Low Pressure

–Peak Demand may include the following:

•Firefighting efforts

•Daily Water User Demand, seasonal high water use…

•Overburdened water systems that no longer meet Peak Demand Requirements (infill development)

•Store, Reserve and Return water for Rural Communities in Developing Countries (Water Sharing Collectives)

Create SRRS "Collectives" for small water systems in developing countries

•Expand and Extend water Storage and water system Area of Coverage respectively for new and existing water system projects presently not using SRRS

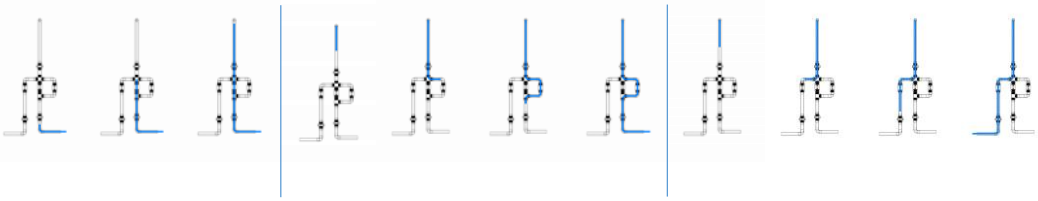
•Reduce water hauling distances, raising quality of life, perhaps driving Social Change…

SRRS Advantages

•Lower water system infrastructure development costs

•Reduce or Delay existing water system infrastructure improvements

•Improve water system performance



WatrWise SRRS™

Water Storage, Reserve and Return System

•Lower water system cost of operations, Power/Electricity demand, for example

•Lower water system cost of management, Water Utility

•Lower water system cost of maintenance

•Lower Fire Insurance rates

•Reduce Catastrophe preparations, less bottled water hoarding prior to Hurricane…

•Create SRRS "Collectives" for small rural water systems, lowering development costs, in Developed Countries too! For example; shared water well between neighbors.

Savings for YOU the Water User

The best saved for last!

•In the end, any savings listed in Advantages from preceding page – in theory – will reduce your individual burden of costs related to water system development, management, maintenance and operations.

•You may, or may not be aware that Water Users end up paying for ALL of the above, in one way or another, sooner or later.

•All water system Costs are eventually passed on to you the Water User. At different levels, different methods are used to ensure that you pay for water system development, management, maintenance and operations. For example;

–Taxes, Federal, State and Local

•Income taxes

•Property taxes

•Assessments

–Revenue Bonds (financing) repaid by you through Water Rates, that continually rise, and other ways.

–Water Rates, like Oil/Gasoline will continue to rise for foreseeable future.

–Development Impact Fees, are one way of passing costs on to developers, who then, pass the costs on to you when you buy a new home.

–Home Owners Insurance – Fire; Collective, widespread use of WatrWise SRRS.

US Patent Number : US 9,097,357 B2

Website: WatrWise.net