

Tater Knob, POA
Water Supply and Distribution

Contents

Overview	3
Future Considerations and Open Items	5
The North Side Particulars	5
North Well Control House.....	6
“New A” Well Pump Control Box	8
North Tank House	10
Other Equipment in the North Tank House	12
North Up Line	13
The South Side Particulars	14
South Side Well Control House	14
South Side Tank House.....	16
The Emergency Crossover.....	17
Procedures	19
Switching Well Pumps – North Well House	19
Switching Well Pumps - South Well House.....	19
Resetting a Well Pump Control Box	19
Filling the Chlorine Solution Tank	19
North Tank House	19
South Well House.....	19
Filter Changes at Tank Houses	20
North Tank House	20
South Tank House	20
Winterization of System.....	20
Crossover With Pump (Both North Side Wells not working or no power at North Well Control House)	20
Crossover, Gravity Feed (Both South Side wells not working).....	21
Resetting a Pump Control Box	21
Procedures Prior to Severe Weather	23
Adjusting the Chlorinator Output	23
Generator	24
Appendix	26

Tater Knob, POA
Water Supply and Distribution

System Overview Diagram 26

House Shutoff Valve Locations 27

Street Valve and Drain Locations 29

Vendor Contact and Water Boy Contacts 29

Chlorination of the Water 30

Duke Electric Meters and Account Numbers 31

North Side - Incident Log 32

South Side - Incident Log..... 33

Tater Knob, POA

Water Supply and Distribution

Overview

The Tater Knob water system has two parts:

- Water Supply – Dealing with the pumping of water from the ground to one of two water storage tanks near the top of Tater Knob.
- Water Distribution – Dealing with the outlet pipes from the two Water Storage Tanks to the various homes on the Knob, street-side shutoff valves and residential shutoff valves

Basically, the water system is split into two geographic locations. The North side and the South side.

Each “Side” has two separate wells, a well control house, and a storage tank located up on the Knob.

Each **Well** has a submersible pump, power line and piping from the water source below ground.

Our Tater Knob maintenance person regularly switches the well used at each well control house at each visit. This evens out the usage and “wear & tear” on each well pump.

Each **Well Control House** has several functions:

- Power – Receives main power from the electric utility and may have a backup generator for power.
- Well Pump Control Box – The “Control Box” applies additional voltage to start the well pump when it is first started. There are also two red buttons on the bottom of the control box to reset it if needed. A signal wire from the float-switch from the Water Storage Tank is used to tell the control box to start the well pump.
- Well Selection Switch - Is used to **manually** select one of the two wells at each location as the “On-Line” well. This selection is performed by one of the well operators or the POA Maintenance person. (Only one well pump runs at a time, the other serves as a backup, that is manually switched to if needed).
- Chlorination – A chlorination pump runs while the tank is being filled. The chlorinators are located in the tank house
- Note: Some equipment may have surge suppressors attached to protect the equipment in case of a lightning strike

The **Storage Tank** is a large (about 1500 Gallon) plastic tank with a float switch. A signal wire hooked to the float-switch signals the Well Pump Control box to power up the pump when the water level is low. The plastic tank has an upper inlet where water from the well fills the tank and a lower outlet that leads to the distribution system.

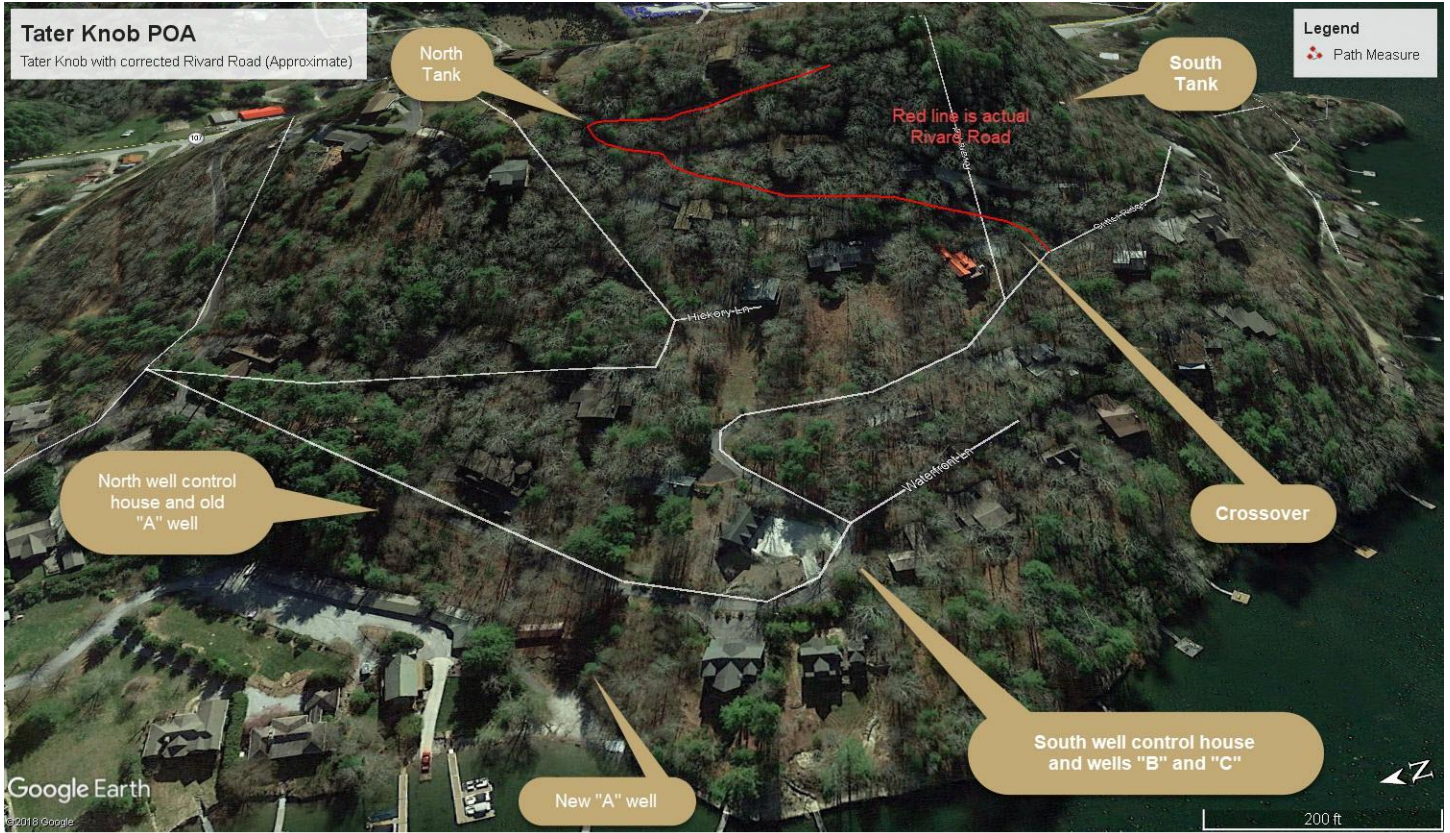
In most cases, the distribution of the water is done with gravity/water pressure from the storage tank to the “Down Stream” residents on each side of the system.

In addition to the two systems (North and South side) there is **an Emergency Crossover** that allows each tank to fill the other (via gravity to **slowly** fill the North or South tank to the same water level) or using an assist pump to fill the North Tank from the South Tank). The crossover is used when the north side or south side systems cannot fill their storage tank. The reasons vary, but include when both wells on one side are inoperable, a break in the line from the pump/well-house to the storage tank, etc.

Tater Knob, POA

Water Supply and Distribution

Image: Location of the Well System Main Components



Tater Knob, POA

Water Supply and Distribution

Future Considerations and Open Items

1. In the future we should standardize the output GPM of the wells as they are replaced. The Chlorinators feed chlorine at a set rate and if the GPM differ between two wells, the chlorine levels are more difficult to regulate.
2. Both tanks need to be cleaned of accumulated sand sediment in the tanks.
3. (Done – 2021) The south tank should have the mechanical float replaced with the same non-mechanical float used in the North Tank. The South tank starts the pump after the tank level has dropped a few inches. The new float will reduce the number of start/stop cycles that wear the pump motor out.

The North Side Particulars

The North side wells are referred to as “Old A” and “New A” or “Old Pump” and “New Pump”. The “Old A” well and Well Control House are located across from the Lindsey’s (#139 Rivard) and next to Arie/Rosen’s (#106 Rivard) on Rivard Road. The “New A” well is located on the south end of the Pavilion area between the pavilion and the canoe racks. (The well is under the fake rock and the control box is in a stainless-steel case mounted near the light pole).

Old A’s pump and pipe were last replaced in September/October 2016 with a 3HP **20 GPM** 3-wire pump and motor, 260ft of 1 ¼” schedule 120 PVC pipe and 2 (two) 1 ¼” torque arrestors, stainless steel fittings – Invoice 1307095 dated Oct 4, 2016

New A’s pump and pipe were last replaced in May/June 2016 with a 3 HP **10 GPM** 3 wire pump and motor, 260ft of 1 ¼” sch 80 with 13 stainless steel couplings – Invoice 1306900 dated 6/23/2016

“New A”’s output pipe and the signal wire from the well control box in the well control house run from the well to behind the pavilion and cross the pavilion road just above where there is a large tree and rock. The supply line then goes up the hill to the west side of Rivard road and on to just behind (1 foot or so) the green-lidded T-junction box across the street from the Lindsey’s where it joins the “Old A” output pipe and heads up the hill. It crosses Rivard and goes between the Lindsey’s and Adam’s houses. It then dog legs slightly left and then right up the lower side of Hickory (or under Hickory) to the junction boxes across from the Peak’s driveway

Inside the North Well Control House all the pipes are from the “Old A” well. The “New A” well feeds directly to the “T” Junction mentioned above.

The actual “T” connection is about 1 foot behind the cover-plate on the lake side of Rivard road. Also, near this junction is a supply line for the spigot about 15 feet behind the junction. That spigot was used to supply water for the North Side Chlorinator when it was located at the well control house.

In August, 2018 a propane powered generator was added to power the New “A” well near the beach pavilion. The propane tank is buried on the beach side of the pavilion just before the hill slopes down to the beach. The generator supplies power to the “New A” well in an emergency. So, the proper procedure for anticipated bad weather is to make sure the “New A” well is in use. Note: The keys to unlock both ends of the generator are located in the lower breaker box on the light pole next to the generator.

Tater Knob, POA

Water Supply and Distribution

Image – Junction Box on Rivard



Image: Outside of North Well Control House



North Well Control House

The North side well control house has all the controls for the wells, switching to select the “New Well” or the “Old Well” and the well pump control box for “Old A”. All the piping inside the house is related to the “Old A” well. A pressure gage on that pipe shows the pressure while the pump is running. (It is zero when not running due to a check-valve).

The well selector switch is located near the lower-right-hand corner of the breaker box. The cover-plate for the switch is labeled “New Well” – Up position and “Old Well” down position. Both wells are off in the middle position.

This wellhouse was rewired/simplified/organized in the fall of 2017, the chlorinator was moved to the North Tank House, the wall mounted controls and breakers were removed, and rewired.

Tater Knob, POA

Water Supply and Distribution

Image: North Well Control House

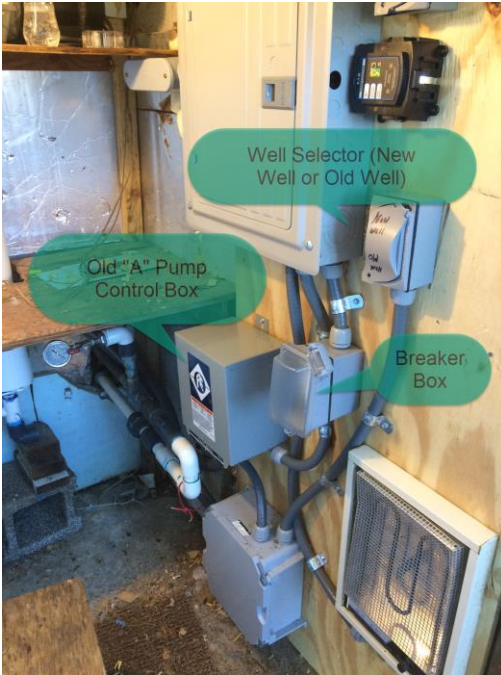


Image: North Well Control House Well Selector Switch



Tater Knob, POA

Water Supply and Distribution

“New A” Well Pump Control Box

The Well Pump Control box for the “New A” well is located at the pavilion near the canoe rack. The “New A” well itself is located under the fake rock.

Image: “New A” well cover



Image: “New A” Well Pump control box



Tater Knob, POA

Water Supply and Distribution

Image: Inside "New A" Well Pump Control box

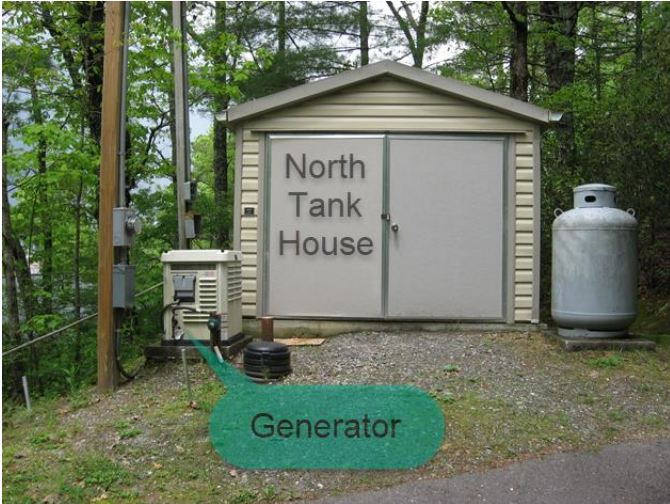


Tater Knob, POA

Water Supply and Distribution

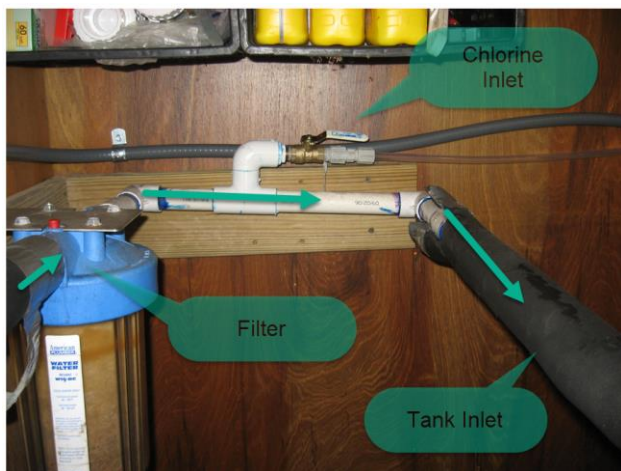
North Tank House

Image: North Tank House Exterior



As the water enters the North Water Storage Tank house it passes through a filter and then empties into the upper tank inlet. As of October 2017 a chlorinator pumps chlorine into the system just past the filter and before emptying into the main tank.

Image: North Tank house Filter and inlet

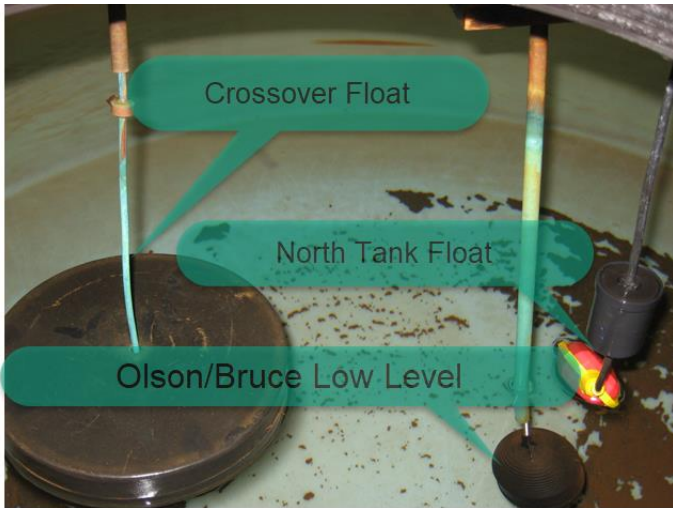


Inside the tank are three floats. They control via signal wires from the float switch the starting and stopping of motors at the Lower Well Pump Control House, at the Crossover and for the Olson/Bruce Jet Pump located in the tank house.

Image: Three floats in the North Tank

Tater Knob, POA

Water Supply and Distribution



An outlet, at the bottom of the storage tank, begins the Distribution side of the water system.

Tater Knob, POA

Water Supply and Distribution

Other Equipment in the North Tank House

A Generator outside the Pump House supplies emergency power so a “GENERAC” control panel is on the west side wall (See Picture Below). It is powered by the large propane tank.

The Olson(Bruce) house and the Price(Self) house cannot be gravity fed because of their elevation. The Jet Pump, Pressure switch, gray pressure tank and control box for the Olson(Bruce) house is in the pump house. That assembly ties into the outgoing tank waterline below the left lower corner of the Generac Panel. It exits into the floor and up the hill to the residence.

Image: Olson/Bruce Pump plus tank inlet and outline lines



The Price(Self) house uses a gravity fed supply line up their driveway and a smart Jet Pump located in the crawlspace of the house.

The Abatte(Cheney) house also uses a jet pump to assist with water pressure. The Price(Self) house and the Cheney house are just below the tank house so water pressure is low without mechanical assistance.

In October 2017 the Chlorinator previously located at the North Well Control House was moved to the North Tank House. That pump runs when either well is pumping water into the tank. See the Chlorinator Appendix for calculations and handling of the chlorine pump.

On the outside of the North Tank House is a Power Pole for normal power, the generator and a propane tank to fuel the generator. The generator is used only to power the Bruce/Olson jet pump to push water up the hill to that house.

The generator automatically test-runs on Wednesday afternoons.

Note When Tank is Drained Empty: The Olson’s pump has a safety switch and if upon restart the pump only runs for 20-30 seconds there is probably air in the line. Before restarting the pump, open a cold-water faucet. It may take a few tries with the pump, but the air in the line will eventually clear and water will pump.

Tater Knob, POA Water Supply and Distribution

North Up Line

The north "Up" Line starts out at the junction box next to Rivard in front of the Lindsey Driveway. It goes under the road and up the hill from there. PVC Markers follow the line up the hill (painted bright green on the tops) where it "T's" with one branch going to supply the Lindsey's and the other the upline to the North Tank. It follows below the road and then up to Rivard. At Rivard, it follows the lower side of the road until it crosses Rivard, goes up the hill between the Peak house and the Booth House.

NOTE: Upline is 1 ½ inch Sched 40 PVC and the down line is 1" (At least on the south side but probably on the north side too).

Tater Knob, POA
Water Supply and Distribution

The South Side Particulars

South Side Well Control House

The South side wells are located just outside the well control house between Lots 12 (Scovil) and 6 Reiche (Phelan). The wells are referred to as "~~B~~" and "~~C~~" Front Well (FW) and Back Well (BW). The Chlorinator is in the South Side tank house.

Image: Exterior of Southern Well Control House



Note, In Nov 2020 the well house was re-engineered and the old B and C wells were re-labeled/named FW for Front Well and BW for Back Well. It is assumed (So far until we can test a running pump) that FW is under the fake rock and the BW is the Back Well under the tar roof structure.

The "B/FW" pump and pipe (under the fake rock near the control house) were replaced in May of 2018 with a 3 HP **5 GPM** end and motor, 3HP Deluxe panel, 480 ft of 1 ¼" Sch 80 PVC pipe with stainless steel couplings, and 2 torque arrestors - invoice 1308144 dated 5/10/2018). NOTE: Insufficient pressure up on this pump caused the contractor to replace that pump with a **10 GPM** pump in July, 2018. Pressure at that pump after the switch was 160 PSI.

"C/BW" pump and pipe (under the tin roof cover) was replaced in July of 2016 with a 3HP, **15 GPM** 3 wire pump and motor, 3 HP deluxe control panel, 600 ft of 1 ¼" sch 80 with 30 stainless couplings. – Invoice 1306972 August 3, 2016. This pump puts out pressure of around 175-180 PSI.

There is a Selector Switch in the upper righthand corner of the East (door) wall that controls which pump/well runs when water is needed.

Tater Knob, POA

Water Supply and Distribution

Image: South Well control house Well Selector Switch



Image: South Well Control House – Piping and Control Boxes

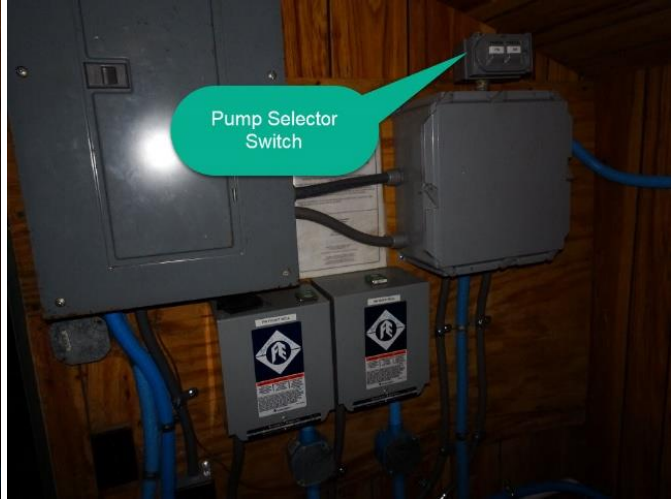


Image: Piping below control boxes



From the Well House, the well output goes out to Rivard road, turns right up the hill ...

Note that in the two control boxes that have the starting capacitors for the well pumps are Franklin Electric 3HP, 230V, 1 phase boxes. PN 2823028310

The Caps and Contactors inside it are Franklin Electric

Line Contactor Coil: PN 155325102

Run Capacitor 45 MFD 370V: PN 155327109

Start Cap 208-250 MFD 220V: PN 275463123

Tater Knob, POA

Water Supply and Distribution

South Side Tank House

The South Side Tank house is located at the end of Critter Ridge, just before the Langdon(#114 Critter Ridge) residence. Just before getting to the Langdon house there is a grass/dirt road (on the left) leading up to the tank house. Park your car and walk up that path.

Image: South Tank House



Image: Interior of Tank House



In 2021, the chlorine solution tank was moved up to the tank house and the same Dolphin Mech-o-matic pump used for the chlorinator used at the north tank house.

Tater Knob, POA

Water Supply and Distribution

The Emergency Crossover

The Emergency Crossover serves as a backup if one side (North or South) cannot pump water from either of its two wells.

The two water storage tanks are almost at the same elevation (3777 ft, and 678 feet apart per Google Earth).so you won't see water pouring into the tank.

In the crossover, there is one breaker for the "Assist Pump". Outside, on the pole, there are two breakers. One is strictly for the Assist Pump and the other power's an outlet, light and a heater for warmth in the wintertime. The "Signal" wire from the North Tank float is energized as needed from the North Tank House breaker box, it comes in from the ground into the breaker box on the power pole and then goes into the Crossover via another cable run.

See the Procedures section for the proper procedure to enable the Crossover

Image: Crossover Overview



Image: Closeup of Crossover Valves (Redo this pic)



Tater Knob, POA Water Supply and Distribution

Image: Inside Assist Pump Breaker



Image: Outside Breaker Box



Image: Power Into the Crossover (The older conduit is the signal wire from the North Tank)



a a

Tater Knob, POA

Water Supply and Distribution

Procedures

Switching Well Pumps – North Well House

On the well house wall is a switch with “Old Well” on the top and “New Well” written on the bottom of the switch box. To switch from one well to the other, move the switch to the **middle/off** position, wait about 10-15 seconds and then move the switch up or down to switch to the desired well.

Switching Well Pumps - South Well House

On the East wall (The wall the entrance door is on) in the upper right corner is a switch box labeled “FW BW” (For Front Well and Back Well). Inside the cover is a switch (also labeled FW and BW) that you can toggle to the middle position to disable both wells. Move the switch to the **middle/off** position and wait 10-15 seconds. **Finally**, then, move the switch mentioned in the first step to the position for the well pump you want to run.

Resetting a Well Pump Control Box

There are one or more Well Pump Control Boxes at each Well house, if there are issues where the pump is not running the box may have tripped.

There are one or two red buttons on the bottom of the control boxes. In turn, push each button up. It may take some pressure to press them if they need to be reset. They will “Click” or “Clunk” when reset. Otherwise they won’t make a sound. If you repeatedly must reset those buttons, there may be something wrong with a capacitor or relay in the control box.

Filling the Chlorine Solution Tank

North Tank House

Note how empty the tank is to determine how much chlorine bleach you will add to the solution tank.

ALWAYS FILL THE SOLUTION TANK WITH WATER FIRST. Using the hose attached to the Olson’s booster pump, fill the solution tank to the 40 gallon mark. You will need to turn on the Olson’s booster pump at the breaker box to get the pump to run. **MAKE SURE** to turn the breaker off if you must turn it on.

Using non-scented regular (Not splash free)) household bleach (5.5 to 7.25% sodium hypochlorite) to the tank. The amount of chlorine you add depends on how empty the tank is. ¼ tank low add 2 cups. Half full add 4 cups. ¾ full add 6 cups and empty add 8 cups.

South Well House

Note how empty the tank is to determine how much chlorine bleach you will add to the solution tank.

ALWAYS FILL THE SOLUTION TANK WITH WATER FIRST. To fill the tank with water, the well must be pumping into the tank. Using the wooden handled broom stick lift the cord at the top of the tank. That will call for water. When the water is flowing, open up the spigot over the tank to fill the solution tank. Close the spigot when you reach the 40 gallon mark on the solution tank.

Now, Using non-scented regular (Not splash free)) household bleach (5.5 to 7.25% sodium hypochlorite) to the tank. The amount of chlorine you add depends on how empty the tank is. ¼ tank low add 2 cups. Half full add 4 cups. ¾ full add 6 cups and empty add 8 cups.

Tater Knob, POA

Water Supply and Distribution

Filter Changes at Tank Houses

Both sides use a 25 micron sediment filter like the [Boshart Industries 14-GSP1-25 spun polypropylene filter](#) that fits most 4 ¾" x 10" water filter housings. The key is 25 micron and sediment filter. [Cashier's Plumbing Supply](#) carries them.

If after replacing the seal you can't get the filter water tight, you'll need to replace the [Square Cut BB BUNA-N O-Ring](#) that you can also get at Cashier's Plumbing Supply.

North Tank House

The filter is changed every 6 months (Review) Maybe every few months in summer. (TBD)

South Tank House

The filter is changed every 6 months (Review) Maybe every few months in summer. (TBD)

Winterization of System

Outline any setup or procedures needed to setup heat for the winter, insulate etc.

- Check that heaters are turned on at the well control houses, tank houses and cross-over
- Winterize the pump in the crossover (It froze and cracked during the winter of 2017/18).

Crossover With Pump (Both North Side Wells not working or no power at North Well Control House)

Note: Using the crossover with the pump procedure should be extremely rare if used at all. In 2021, the crossover without the pump was used for several weeks without any loss of water in the tanks. I believe the Pump Addition was possibly used when the level of the tanks was such that water needed to be moved from a low elevation tank to a higher elevation tank. Simply opening the single valve between the North and South outlet tanks should work in any circumstances now since the two tanks are within inches of being at the same level. Instead, use the "Crossover, Gravity Feed" procedure in the next section.

To pump water from the South Tank to the North Tank when both of the North Side wells are not working, use the steps outlined below.. The reason a pump is used here is that the North Tank is slightly higher than the South Tank but see "Note" above in shading.

Note: On the lever valves, the valve is "Open" if the handle is parallel to the pipe and closed if the handle is perpendicular to the pipe.

- 1) Notify everyone that the entire community is running on one well and there may be shortages. Ask them to only use water as necessary.
- 2) In the North Well Control house, move the Pump Selector switch to the position between "A" and "New A". This prevents either well/pump from running if the power was to be restored.
- 3) At the Crossover, open the lever valve between the south well line and the pump.
- 4) At the Crossover, open the lever valve out of the pump and leading to the North Tank.
- 5) At the Crossover, make sure the lever valve between the south tank pipe and the North Tank Pipe is closed.
- 6) At the Crossover, turn the breaker labeled "Assist Pump" on.
- 7) At the North Tank house, disconnect the chlorinator from the outlet. This is done because the chlorinator will run even with the slower crossover pump rate and over-chlorinate the water.

Tater Knob, POA

Water Supply and Distribution

- 8) At the North Tank house, flip the breaker labeled “Crossover” to the “ON” position. This energizes the large round float switch in the tank to send a demand signal to the crossover pump.
- 9) Water should now start to fill the tank from the bottom outlet of the tank. You may notice some sediment moving at the bottom of the tank near the outlet. It will slowly fill and may not be noticeable.

Crossover, Gravity Feed (Both South Side wells not working)

To gravity feed the South Side Tank with the North Side Tank:

Note, on the lever valves, the valve is “Open” if the handle is parallel to the pipe and closed if the handle is perpendicular to the pipe.

- 1) Notify everyone that the entire community is running on one side of the well system and there may be shortages. Have them only use water as necessary. NOTE: IT MAY TAKE A DAY FOR THE WATER TO REACH A DEPTH OF 36 INCHES IN THE EMPTY TANK.
- 2) In the South Well Control house, move the Pump Selector switch to the position between “B” and “C”. This prevents either well/pump from running.
- 3) At the South Tank House unplug the Chlorinator from the wall.
- 4) At the Crossover, close the lever valve between the south well line and the pump.
- 5) At the Crossover, close the lever out of the pump and leading to the North Tank.
- 6) At the Crossover, make sure the lever between the south tank pipe and the North Tank Pipe is open.
- 7) Water should now start to fill the South tank from the bottom outlet of the tank. You may notice some sediment moving at the bottom of the tank near the outlet. It will slowly fill and may not be noticeable.

Resetting a Pump Control Box

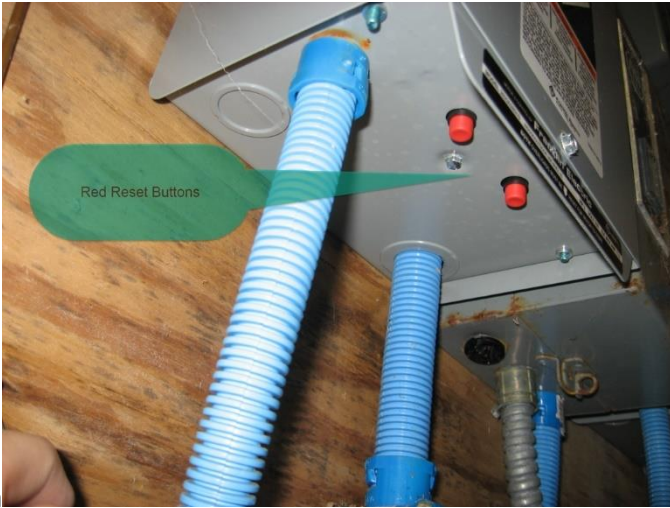
On the bottom of each control box are two small red buttons. If the pump/well is not working and you’ve eliminated all other issues, move the pump selector switch to the middle (Off) position. In turn, press each red button up. It may take some pressure and if reset, will make a loud click or clunking sound. Note: The buttons **do not** have to be pressed simultaneously.

Then, flip the Well Selector Switch to the well you are trying to get working.

Image: Reset buttons on the bottom of a pump control box

Tater Knob, POA

Water Supply and Distribution



ca

Tater Knob, POA

Water Supply and Distribution

Procedures Prior to Severe Weather

In the event that severe weather (Hurricane/Tropical Storm etc.) is predicted you should make sure the North well control house is switched to the “New A” well (Well down at the pavilion/beach area. That well is backed up with a generator and will operate if there is a power outage.

Adjusting the Chlorinator Output

The chlorinator output should not be adjusted unless discussed with the water team. There is no need to adjust the dosages unless something is wrong with the chlorinator and that should be addressed by the water team.

Tater Knob, POA

Water Supply and Distribution

Generator

There are several generators for the systems.

- North Tank House (Only powers the Bruce/Olson jet pump up hill)
- North New Well (At the pavilion)
- South Well House (The key to open the generator panel is in the control house hanging on a hook).

The generators are designed to kick in when power to that location is lost. When line/main power is lost, nothing immediate happens. After about 20 seconds the generator will start. If the generator does not start, open the cover to get to the status panel. It may show an error. Example: In December 2020, Jim Faber and Steve Price were testing an issue where there was a loss of Duke power in the area, and we lost water on the North Side. When Jim and I turned off power at the pole breaker-box the generator did not start. Opening the generator, we saw that the "RPM Sensor Loss" light was red and the "System Ready" light was off. Turning the breaker back on seemed to reset the generator system and it worked as expected after that.

If the Generator still does not start it may be the fuse. At the North Tank House, the fuse is a 7.5 Amp Automobile fuse located on the status panel. Spares are hanging inside the tank house above the breaker panel.

Once the generator starts, a mechanical switch inside the breaker box in the tank house engages to switch the power from line power to generator power. This takes a few seconds after generator startup.

Tater Knob, POA Water Supply and Distribution

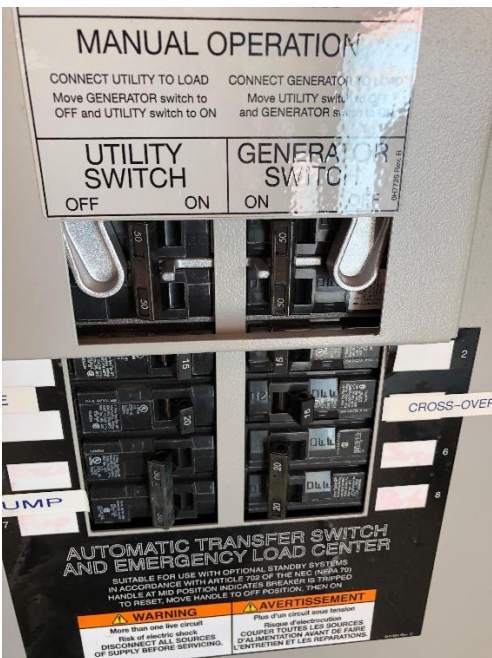
Image: North Tank House Generator – Top Removed



Image: Status Panel Enlarged. Note 7.5 Amp Auto Fuse. ,



Image: Electric Panel in Tank house. Note Automatic Utility/Generator Switch.



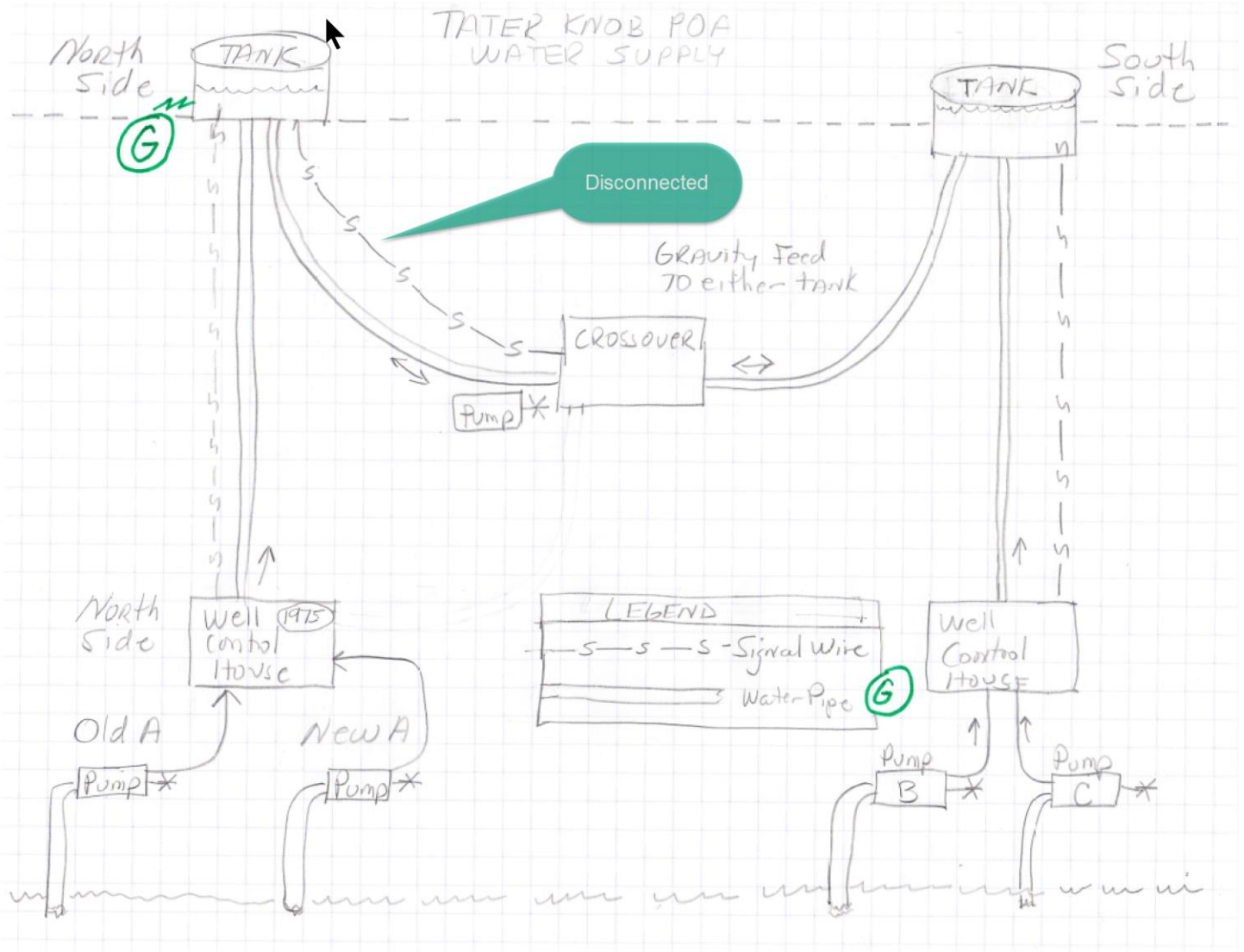
Tater Knob, POA Water Supply and Distribution

Appendix

System Overview Diagram

line

Note: The signal from the North Tank to the Crossover is now connected as of the Spring of 2018.



Tater Knob, POA Water Supply and Distribution

House Shutoff Valve Locations

These descriptions were taken off a very old list in the original water system documentation. Needs to be updated as needed.

Lot	Address	Shutoff
1	106 Rivard (Arie/Rosen)	NE corner of house at spigot
2	139 Rivard (Barnhardt/Lindsey)	External: 8" ceramic pipe under deck about 10' from steps Internal: 4' from basement door on front wall.
3	145 Rivard (Adams)	7' up on north wall at stair to second floor
4	283 Rivard (Smith)	SW Corner of house next to paved parking lot. Concrete block cover.
5	255 Rivard (Faber)	Water shutoff is located to the left of the left garage driveway next to the post with the red light. Turn the blue handle 1/4 turn to shut off the water.
6	238 Rivard (Reiche)	Outside concrete slab at well "B"
7	85 Rivard (Rogers)	???
8	77 Hickory (Sterns/Rankow)	West side of road opposite driveway near near culvert guardrail. Concrete cover, large stone cistern like encasement,
9	136 Hickory (Peek)	Just left of garage door. Plywood cover. Large valve is cutoff. Two small valves are drains.
10	82 Hickory (Braswell/Doolittle)	????? Under Construction - Valve will be near driveway. ??????
11	118 Hickory (Tammaro)	4' left of steps on back side of house
12	250 Rivard (Scovil)	Back West wall 5' from NW Corner. Plastic Cover
13	14 Waterfront Ln (Bankston/Kreisder)	Under house on front wall just north of water heater. Erdlitz has key.
14	40 Waterfront Ln (Larson)	Under house on front wall toward driveway.
15	64 Waterfront Ln (Ferguson)	Under kitchen window. 2x6 board cover. Valve cutoff tool hangs on outside of garage east wall
16	362 Rivard (Fisch)	First valve : 75' north of house just beyond 350 Rivard Road (Shankland) duck pond at ditch toward 64 Waterford Lane under plastic covered pipe. Second valve: Under steps, near bottom. Valve tool on side of steps.
17	364 Rivard (Topfl)	???
18	326 Rivard (Larson)	NW corner near top of wooden steps
19	350 Rivard (Leasure/Shankland)	Left of front door on East wall under spigot
20	455 Rivard (Mortti)	Toward west side of middle of driveway 14' from pavement entrance
21	427 Rivard (Lewis/Bowdoin)	End of driveway near the crossover on Rivard
22	410 Rivard (Wagner/Maloney)	3' from walkway on side nearest road under concrete block box
23	31 Critter Ridge (Hertz)	???
24	471 Rivard (Booth)	25' from pavement on left side of gravel driveway in plastic meter box
25	520 Rivard (Price/Self)	Facing the chimney, shutoff is 4' to the left under the round black plastic cover.
26	519 Rivard (Abatte/Cheney)	????
27	610 Rivard (Olson/Bruce)	At garage 2' from SE corner of house. Also, at the North Pumphouse there is a shutoff for the upline that is under a wood cover just outside the pumphouse. This caused a water loss mystery in 2020 when it was shut off

Tater Knob, POA
Water Supply and Distribution

		to search for a water leak, left off and the owners couldn't get their water to work a few weeks later when they returned.
28AB	N/A (King)	
29	N/A (Martin)	
30	N/A (Martin)	
31	114 Critter Ridge (Langdon)	???
32	96 Critter Ridge (Martin)	On right at end of paved entrance road to gravel area under juniper at spigot
33	94 Critter Ridge (Ray)	??? End of driveway near the road
34	58 Critter Ridge (Small)	Round black top 3' down hill from end of blacktop portion of driveway
35	32 Critter Ridge (Knaust)	North wall just east of basement doors in covered box.
36	14 Critter Ridge (Lopez/Jones)	North wall, 3' east of spigot.

Tater Knob, POA

Water Supply and Distribution

Street Valve and Drain Locations

Walking down from the North Tank house.

- At the Cheney (Lot 26) Driveway Upper Side
- At the Cheney Driveway lower side drain for Olson (Lot 27) water supply pipe
- At the Price (Lot 25) Driveway (lower side) drain spigot.
- At the Price (Lot 25) Driveway (upper side) small white pipe protruding from ground.
- At the Bowdoin (lot 21) driveway, lower side, to shutoff valves one covered in rocks and one with a plastic cover.
- TBD...

Vendor Contact and Water Boy Contacts

Our main well vendor is Hedden Brothers, Well Drilling, in Franklin, NC.

Phone: 828.369.9591

<http://www.heddenbroswelldrilling.com/>

At this time, the following persons are on the Water Committee:

- **Jim Faber**
- **Ralph Small**
- **Steve Price**
- **Doug Booth**
-

In addition, the Tater Knob handyman, Carol Broom, has extensive knowledge about the water system.

Carroll Broom

37 Cobblestone Dr.

Cullowhee, NC 28723

(828)-293-3713 (Home Land Line)

(828)-508-1890 (Cell Phone)

NOTE: Contact Carroll at home first. He does not have mobile service at home so you can leave a message for him there that he will get.

Other Contacts:

Lalo Nogal

828.226.3003

Lalo has a crew that will dig out and PVC repair broken pipe etc.

Tater Knob, POA

Water Supply and Distribution

Chlorination of the Water

Note: As of May, 2022 both tank houses have the lower pressure Dolphin Peristaltic/Roller pump

Resources:

[Chlorine Dilution Calculator | Public Health Ontario](#) (Great site if you have to add chlorine to the 1500 gallon full tank)

Each well system has a 40-gallon (approx.) chlorine solution tank and a chlorine solution pump located in the tank house that delivers a small amount of the solution to the main water tank when it is running.

The delivery pump is wired to deliver solution whenever the float in the main water tank demands water.

As of May 2022 the solution pumps for chlorine are the same brand and model. Mec-O-Matic Dolphin Series model 75 – 97 Gallons Per Day pump.

The solution tank pump has a dial on it that determines how much solution it will deliver while running. Currently it is at a setting of 2.5 – 2.75 indicating the number of minutes out of 10 minutes the pump will run. So, while the well pump is filling the water tank, the solution pump will only run for about 2.5 minutes out of 10 minutes.

There is a spreadsheet we'll stick out on the website or otherwise distribute to confirm formulae use to get the Gallons Per Minute output of the well, the Parts per Million of the chlorine supply tank and the GPD of the supply tank that need to be delivered.

But, if you are adjusting or altering the pump time/% be very cautious and conservative in your adjustments. Use the chlorine test kit to check your progress.

Tater Knob, POA
Water Supply and Distribution

Duke Electric Meters and Account Numbers

Location	Meter #	Account#	
North Well House	321 227 987		
North Pavilion Well	327 227 933		
North Tank House	321 227 923		
South Well House	321 228 002		
South Tank House	321 227 995	9100 2890 3887	
Crossover	321 227 894		

Account Number: **910030196358**

Account Number: **910035753561**

Account Number: **910035753280**

Account Number: **910035762083**

Account Number: **910035753842**

Account Number: **910028903887**

Tater Knob, POA
Water Supply and Distribution

North Side - Incident Log

March 2020 (Spring Date uncertain) – Solution pump at the South Wellhouse failed. The pump from the North Tank House was relocated to the South Well House. At the Well House, a high-pressure solution pump is required. At the tank a lower pressure (less costly) pump was installed as a replacement.

June 15, 2022 - Due to a lightning (groundstrike probably) we lost **several contactors** on both well systems (north and south sides). It was discovered late in the evening and the well repair guys came the next day and partially service. (Chlorine pump on North Tank would not run and if the North side was running off the new pavilion pump it would not shut off and overflowed the North Storage tank.

July 5, 2022 – Bob Martin’s crew came out and fixed the up-line break between the tankhouse and the Abbate(Cheney) driveway.

July 6, 2022 – Chlorinator was not working after the issues two weeks ago. Doug B and Steve P replaced **the float switch** and removed the old unused down-rod float from the tank to prevent interference with the float switch. Also, tank house was flooding because pump would not stop. Jim came up and replaced both tank-house contactors and chlorinator started working. But, tank was still flooding. It was finally determined that the contactor in the well house was sticking. Jim replaced that contactor on July 7th. TBC.

August 13, 2022 – Chlorinator was leaking but that was fixed. Now, I’ve doubled the chlorine and backed the pump back from 5 (50%) to 3 (30%). Chlorine Bleach was increased to 8 cups per empty solution tank. I’ll monitor this for the correct about 1% PPM end product in the water tank.

Dec 30, 2022 – A historic freeze and 18 hour power outage led to the bursting of pipes in the north well house. Repairs were made, a few days later they blew out and were repaired by Greg W. from Buck Knob. The downline also froze at some point (and possibly the upline).

March 4, 2023 – Phillip Rogers returns from winter to open his house and finds he has no water and the North Tank drained. The pipe from the street cutoff that goes under the road, under the ditch and up his yard broke. He repaired that break on his own dime due to it being after the street switch.

Tater Knob, POA

Water Supply and Distribution

South Side - Incident Log

June 2024 – Walked into the South Tank house and the chlorinator was running without the tank filling. Tested the chlorine level at over 6 PPM. Emptied tank and shut off chlorinator. Root cause was that the flow switch on the water inlet had gone bad. It was replaced on June 18th and is now working correctly.

May 27, 2024 – Users reported no water and low water pressure on the south side. RR and SP checked the well house and neither pump would activate when switched on. South Tank was confirmed empty. Green Brothers was called and responded at 1:00 PM Tuesday morning. They replaced a relay in each pump control box and the big 3-pole. contactor in the contactor box. Pumps would still not run and were not calling for water. Went to the Tank House and a crew was clearing trees and had dropped the power line to the tank house. We called off the troubleshooting until we could get water to the tank. Jim later mentioned that the power for the float switch comes from the well house and not the tank house. So, we'll recheck the well house in the morning and call Green Brother's back. The crossover was engaged soon after the outage was discovered and it took until the next day at noon for the water level to just barely touch the bottom of the float switch but it did (Slowly) fill.

Sep, 2018 - Crossover Incident: A pipe break at the South Well Control House caused some homeowners to call in they had no water. Inspecting the South Well Tank, the outlet was only half covered with water. The well switch was put in the neutral position since water was gushing from the ground in front of the South well control house door.

Then, the Crossover was engaged by opening the lever between the two tank outlets in the Crossover house. Monitoring the tank water level is difficult because the water in the outlets will first provide any demand downstream before backing up and reverse-filling the tanks. Eventually, the water level moved above the outlet and at its maximum, was 32.5 inches deep.

March 2020 (Spring Date uncertain) – Solution pump at the South Wellhouse failed. The pump from the North Tank House was relocated to the South Well House. At the Well House, a high-pressure solution pump is required. At the tank a lower pressure (less costly) pump was installed as a replacement.

July 4, 2020 – The upstream pipe next to the Larsen's on Rivard road failed and Heddon Brothers were called out to fix the line. This was thought to have fixed a suspected leak in the system but usage of the solution tank is still high, but, at the peak of summer, it is hard to tell. We will continue to monitor.

July 15, 2020 – No water was reported on the South Side. It turned out one of the main breakers in the gray panel had tripped. We will monitor that breaker and search for a root cause if it continues.

November, 2020 – The South Well house was rewired and simplified by Heddon Brother's Well company. Charles was the guy who did the work.

August 18, 2021 – Water ran out on the South Side (Call from Ralph Small). The tank was completely empty. At the well house, the breaker for the "Control Circuit" was The breaker was reset, the well source was switched from the Back Well to the Front Well and the tank was filled.

There was heavy rain and lightning in the previous couple days and that may have been the cause. Also, the chlorine tank was not pumping and removing the outlet line and then re-attaching it got it going.

Tater Knob, POA

Water Supply and Distribution

Later, that afternoon the source was switched back to the Back well and it cycled and behaved correctly. But a few days later the control circuit tripped again so I think it's related to water/rain intrusion somewhere.

I called Heddon Brothers and they said it was probably a short somewhere or a weak breaker. This is the same problem we had a few times before the well control house was rewired in November 2020.

August 19th, 2021 – Jim Faber replaced the float switch in the South Tank House. It is now cycling about every couple hours instead of every 15-30 minutes. Same float as is in the North Tank House.

Nov 3, 2021 – Dave Mortti, Steve P and Jim F checked the amperage coming out of the front and back wells on the south side. Amperage was good but we decided to change out the Capacitors. SP ordering parts.

Tater Knob, POA

Water Supply and Distribution

Feb 26-28, 2022 – Reports of no water on the south side. There were other incidents that week of a leak at the chlorinator in the south well house too. North Tank was filling but emptying just as fast. Break was not obvious to anyone and Bob Martin was called to find and fix the issue. In stopping the leak, a valve to the well was turned off 10-12 feet to the left of the Ferguson's garage at 64 Waterfront Lane. This valve appeared to be running up hill and didn't seem to lead to other houses. On 3/19/22 Jacqui Fisch reported they did not have water. So, their water comes from the waterfront lane side. She was told there is a leak between her house and the valve and it may be in the house itself. (More info to follow.). Lou Topfl was contacted on 3/19/22 was to warn him his water may or may not be on and that there could be a leak in or around his property. His house is winterized and he doesn't need the water until later in April. As of March 31, 2022 nobody has called for no water on the south side.

June-July, 2022 – Chlorinator moved to the South Tank House. But it is working in fits and starts. I pulled the tip a few times and it would work but then stop. Research showed that the clear-plastic cover over the tip was a functioning part of the system but was removed at install. Replaced tip and it took a couple days but solution now squirts out of the tip. (May have had bubbles or debris in the line(?). Also, Contactor hooked to switch did not work and a flow switch was installed to activate the chlorinator. All is working well as of July 7, 2022.

August 12, 2022 – The chlorinator was working at first but we've had big problems with it not drawing and then drawing solution from the tank. It stopped drawing again so I replaced the intake strainer but that did not fix it. Then, I noticed that the top screw on the front that holds the pump plexiglass cover in place (loosely) was missing completely. I couldn't get a proper replacement at Zollers but noticed the screws holding the back of the cover plate on were the same spec so I "Borrowed" one of those. Pump immediately started working as it should, squirting out a good amount of solution with each pump cycle.

March 10, 2023 – The south tank was reported dry by Rob Reiche. This was about the same time that Phillip Rogers house line broke on the north side and I suspected the crossover was bad. It turned out that Jacqui Fische (362 Rivard) had a leak, the plumber turned her water on to find it and apparently left it on when they couldn't find the leak. Doug Booth and Rob Reiche started inspecting houses and found her crawlspace leaking water. She was notified.