



WESTERN WATER WELL

COMMUNICATION & UPDATES

Communication to residents on August 30, 2024:

Residents,

The update for this week is that the contractor has completed the removal of the 650' deep well components. Having the well out of the ground eliminates many of the unknowns when it comes to pulling a well out of the ground. The electrical contractor is 75% complete with his work on the new electrical components and the variable frequency drive unit. He expects to complete his work next week while we await the delivery of the new pipe. Once the contractor receives the pipe, they will assemble the components at their storage yard before trailering the new well sections to the site. There will be very little activity at the well site until the pipe is delivered to the well site. The timeline below is a summary of past and projected efforts to get the system back to full capacity:

Friday, July 26, 2024 – The well was performing normally and delivering over 1200 gallons per minute (GPM)

Week 1

Monday, July 29, 2024 – The well performance reduced to 650 gpm by Monday morning. The well contractor was immediately contacted to assist in the diagnosis. It was determined that the most likely issue was that some of the impellers of the pump had failed. The contractor developed the pump design, depth, and horsepower recommendations by mid-afternoon. Before the end of the day, Mayor McGee signed an Emergency Purchase Order to order the parts to be replaced. The contractor received the Purchase Order, ordered the parts, and began scheduling equipment and manpower.

Tuesday, July 30, 2024 – The well performance reduced to 550 gpm on Tuesday morning. City Engineer and Public Works Director spent a large part of the day analyzing typical usage of every meter within the Western Water System. At this point, City officials were concerned about system failure from a loss of pressure caused by a demand greater than can be pumped. A request for conservation went out, and an irrigation schedule was recommended. The contractor reported that he was able to convince the manufacturer of the well components that Ridgeland's order needed manufacturing priority. The City reported to the residents that the hopeful repair time is 6-8 weeks.

Wednesday, July 31, 2024 – The well performance reduced to 450 gpm on Wednesday morning. By the end of the day, the well completely failed. Pump time on the secondary well increased significantly after the loss of the primary well. The City reissued the water conservation request.

Thursday, August 1, 2024 – The irrigation demand on Thursday morning drained the water tank several feet below the normal water level. Domestic pressure was maintained, but fire demand was compromised. City officials

further analyzed the irrigation consumption and found that most people had not adjusted their irrigation timers. It was known at that point that the system would fail on Friday morning if an irrigation ban was not issued. City staff was reassigned from several departments to generate and deliver a flyer while water crews physically turned off every irrigation meter with the hope of saving the pressure on the system.

Friday, August 2, 2024 – It was announced that the irrigation ban was successful and that the system did not lose pressure. Staff continued to analyze water usage throughout the day. After receiving numerous questions throughout the day, the City developed a Q&A that was sent to residents.

Week 2

Throughout the week, City officials continued to monitor the performance of the tank and well system and the usage of water. City crews canvassed the water system, looking for leaks, and made several repairs to reduce water loss. Communication continued with the Contractor to stress the importance of the situation, with the greatest concern being the possibility of losing the secondary well and having to implement the next-level contingency plan. With the added stress on the secondary well, the performance of this well became a real concern. The City determined that this well needs to be lowered and rehabbed during the coming winter months.

Week 3

The City continued the same efforts this week as in week 2, including fixing more leaks and continuing communication. During week 3, the City and Bridgewater HOA leadership worked to secure a fire hydrant meter for use by residents and their contractors. The HOA provided the news to its membership and collected fees to cover the costs of the meter charges. The fire hydrant meter was placed on a hydrant connected to the adjacent water system so that no additional demand would be put on the western water system. The contractor reported that while he had manpower available, he had to modify the crane on the back of the truck to pull a well of this size. The contractor reported by the end of the week that the modifications were almost complete, and he hoped he would be on site by the end of the day Monday. The Electrical Contractor worked on electrical component removal and installation throughout the week and weekend.

Week 4

The contractor arrived on the site and had to bring in a welder to make additional modifications to the crane. By the end of the week, the contractor was able to pull about 300' out of the ground before the end of the workday on Friday. The contractor advised the Public Works Director at 4:30 pm on Friday that he would like to meet on-site on Monday to inspect the pipe because his crew noticed some defects in the column pipe at the depths where the pipe gets near the water level of the aquifer.

Week 5

The contractor, Public Works Director, and City Engineer inspected the pipe on Monday morning and found the defects to be severe enough to warrant purchasing new pipe. The Mayor immediately authorized the purchase, and the contractor verbally ordered the pipe during the onsite meeting. The manufacturer believes he can ship the pipe to the contractor within 11-14 days. The City followed up with a Purchase Order immediately after that. The City provided an update to the residents. By Thursday, the contractor had removed all well components, confirmed that the pump failure was definitely the issue, and removed most of the column pipe, lubricant shaft, and well shaft from the well site to make room for the arrival of the new well components.

Week 6 (forecast)

The electrical contractor is expected to complete his work prior to the arrival of the well contractor. The contractor is hopeful that the new column pipe will be delivered by the end of the week. There will not be much onsite activity during week 6.

Week 7 (forecast)

The electrical contractor must be finished in anticipation of the arrival of the well components. The City is hopeful that the contractor will be able to assemble the column pipe, lubrication pipe, and pump shaft sections so they can deliver to the well site. If all goes well, the contractor anticipates being able to begin the installation of the well during week 7.

Week 8 (forecast)

The well will hopefully be complete and back in operation. Once the well is pumping again, the water will have to cycle as runoff down the ditch until a clear health sample can be achieved. Once a clear health sample is achieved, the well can be added back to the western water system, and normal operation can likely be resumed. The only lingering concern is potentially overwhelming the system if everyone runs extra irrigation on the same day. This is a likely expectation if we do not begin getting regular rains. Further efforts to analyze the system demands will be reviewed in the event that we need to implement the original irrigation schedule as previously attempted.

For additional information included in past updates, please visit the Public Notices section of the City's website at www.RidgelandMS.org.

Communication to residents on August 26, 2024:

Residents,

This update is one of those difficult updates to inform you that we discovered defects in the column pipe of the well today, which will result in additional procurement of materials necessary to complete the project. Once we were able to inspect the column pipe between the 200-280 feet depths after they were removed from the well and placed on the ground, we observed some deterioration that compromised the integrity of the pipe and the joints between the pipes. Instead of putting the defective pipe back into the ground, we made the decision to replace the pipe so we wouldn't end up right back in the same situation. We directed our contractor to order the pipe immediately, which will be shipped to the contractor in a week and a half. We do not expect this setback to cost us additional time from the original 6-8 week schedule. Still, we wanted to alert you that the repair will likely be completed closer to the 8-week end of the expectation, barring any other issues. As of today's end of the work day, the contractor has removed 350 feet of well components and has 300 feet to go. The contractor should be able to complete the removal before the end of the week. Once the new column pipe is delivered to the contractor's construction yard, they will assemble the three stages of each section at their yard and deliver them to the well site once assembled. When the assembled section arrives, the contractor will be back on site to install the well components.

Communication to residents on August 23, 2024:

Dear Residents,

We are continuing to provide necessary domestic water supply and fire protection thanks to the efforts to avoid irrigating with the domestic water supply. It's important to the water supply for us to continue with the irrigation ban, and we are glad so many of you have found a creative solution to keep your landscapes alive. As a reminder, here is the link to the map illustrating the irrigation ban area: <https://ridgeland.maps.arcgis.com/apps/webappviewer/index.html?id=ff5cee6bb5874ade95404ce28dae61e>. The affected area is rendered in the red area of the map.

We have completed week 4 of the expected repair time of 6 to 8 weeks. Our contractor has received the pump parts and has begun the removal process. Our contractor plans to reinstall the well components as soon as the failed parts are removed. Once the well is complete, we will have to go through a flushing phase until the water passes the Health Department approval. We have been in communication with the Health Department, and they are ready to assist us in getting this well restored.

We are also working day and night to identify any leaks. If anyone sees a leak on the system, please call the Public Works Department at [601-853-2027](tel:601-853-2027) M-F from 8-5 or the Police Department at [601-856-2121](tel:601-856-2121) for after-hours to

report the leak. We will provide an update again next Friday unless there is other urgent information that needs to be communicated.

Communication to residents on August 16, 2024:

Dear Residents,

We are continuing to provide necessary domestic water supply and fire protection thanks to the efforts to avoid irrigating with the domestic water supply. So many of our residents have found creative ways to manage this situation with the understanding that you are helping make a difference. We see numerous pond pumps working day and night and contractors assisting homeowners with water tanks. We were also excited to celebrate the rain this past week and hopefully will see some more in the coming days.

After numerous requests, we worked with the Bridgewater II HOA leadership to provide a water meter for a fire hydrant so contractors and residents could get water from a nearby fire hydrant. The closer fire hydrant means a quicker turnaround time for contractors and homeowners, allowing the contractors to offer the service to more homeowners who want the assistance. Several residents have contacted the City, reporting possible stealing of water from a hydrant that could impact their water system. We appreciate the reporting and wanted to inform everyone that the HOA is collecting fees for the water use, and the HOA will be paying the water bill calculated from the meter on the fire hydrant. The hydrant that was chosen for the meter is located on the lower grade line system, not the western water system grade line. This hydrant's pressure is much lower than the pressure provided to each house in BWII, which is why this hydrant is isolated from the western water system. Anyone in BW II who desires to fill large containers from this hydrant is encouraged to contact Ben Riley ([601-383-1118](tel:601-383-1118)), the fire hydrant liaison for the BW II HOA. His role is to collect fees and explain the location and operation of the hydrant. If you have questions about the water system, please contact the Public Works Department at [601-853-2027](tel:601-853-2027).

It's important to the water supply for us to continue with the irrigation ban, and we are glad so many of you have found a creative solution to keep your landscapes alive. Several people have asked if they can use water hoses. Unfortunately, water hoses use considerably more water at a faster pace than a pitcher or bucket, so using hoses is not allowed for irrigating plants from the domestic, potable water supply. You may use hoses connected to external water tanks or pond pumps. We continue to monitor the water statistics of each water meter and the well on a daily basis. The secondary well has been running from 12 hours/day to 18 hours/day to supply the western water system with domestic water at normal pressures. It is important that the well and aquifer get time to recover during the day to maintain operational efficiency. We still do not have the capacity to support any irrigation.

We have completed week 3 of the expected repair time of 6 to 8 weeks. Our contractor did not arrive on site this week as we hoped to begin the removal of the pump and column pipe, but he did work all week on preparations for the equipment that will be used next week. The contractor reports that crews are scheduled to be on site early next week to remove the well components. Our contractor confirmed with the manufacturer that the pump is scheduled for delivery next week, as promised. Our contractor plans to reinstall the well components as soon as the parts arrive and the old pump is removed. Once the well is complete, we will have to go through a flushing phase until the water passes the Health Department approval. We have been in communication with the Health Department, and they are ready to assist us in getting this well restored.

We are also working day and night to identify any leaks. If anyone sees a leak on the system, please call the Public Works Department at [601-853-2027](tel:601-853-2027) M-F from 8-5 or the Police Department at [601-856-2121](tel:601-856-2121) for after-hours to report the leak. We will provide an update again next Friday unless there is other urgent information that needs to be communicated.

Communication to residents on August 9, 2024:

Dear Residents,

We are continuing to provide necessary domestic water supply and fire protection thanks to the efforts to avoid irrigating with the domestic water supply. So many of our residents have found creative ways to manage this situation with the understanding that you are helping make a difference. Several people who live on lakes have bought pumps and are using the pond water to irrigate trees and shrubs. Some have even connected pond pumps to their irrigation system. Those residents who choose to connect a pond pump to the irrigation system need to coordinate with the City of Ridgeland Public Works Department to ensure that there is no system connection to the domestic water supply. We do not want anyone to become sick due to the introduction of pond water into the system. Numerous residents have advised that they have contracted with landscape or carwash businesses to use their pre-filled water tanks to water plants. Others are simply using a pitcher to keep water on plants that show the need. It's important to the water supply for us to continue with the irrigation ban, and we are glad so many of you have found a creative solution.

We continue to monitor the water statistics of each water meter daily. Our system clearly highlights anyone who has chosen to irrigate through their water meter. You can gain access to the same usage data we see. If you download the app EyeOnWater, you can enter your water billing account information to monitor your own usage. This app is useful in helping you understand water usage so that you can decide to make your adjustments to your water system, which could save you money. You can also set very valuable leak alerts. We have water customers who experience leaks every day. Getting the message delivered through your app could literally save you thousands of dollars by be able to fix the leak immediately.

We are still on schedule to make the repair, as previously discussed. We have completed week 2 of the expected repair time of 6 to 8 weeks. Our contractor plans to mobilize next week and begin the removal of the pump and column pipe. Our electrical contractor has already removed the motor that sits on top of the pump. We are doing everything that we possibly can while we wait for the delivery of the pump, new motor, and other parts. If our contractor can begin the removal next week, we will gain valuable time to inspect other deep well components. We are hopeful that the pump will be delivered by the end of next week or early the following week. Our contractor plans to reinstall the well components as soon as the parts arrive. Once the well is complete, we will have to go through a flushing phase until the water passes the Health Department approval. We have been in communication with the Health Department, and they are ready to assist us in getting this well restored.

We are also working day and night to identify any leak. If anyone sees a leak on the system, please call the Public Works Department at 601-853-2027 M-F from 8-5 or the Police Department at 601-856-2121 for after hours to report the leak. We will provide an update again next Friday unless there is other urgent information that needs to be communicated.

Communication to residents on August 2, 2024:

Residents,

Despite the inconvenience, the irrigation ban was an absolute success this morning. The water tank levels did not fall below the minimum level this morning, and our secondary well is currently keeping up with the domestic water demand. The City of Ridgeland sincerely thanks you for your understanding of the importance of the situation to continue the irrigation ban. We have heard from many supportive people, and numerous great questions have been

asked and answered. Here is some information that will help others who may have had the same questions.

I have plans to install landscaping next week; what should I do?

- We highly recommend that you delay new landscape installations until we can get the primary well back in service.

I planted landscape material recently; what can I do?

- This is the toughest question to answer. The only answer we have at the moment is to attempt to find someone with a water tank who can assist in watering. Another option is to use a pump to pump lake water if you live on one of the lakes. If you have recently planted a few new shrubs or trees, we advise that you fill a pitcher or bucket to water each plant.

Can I use a garden hose to water my yard?

- No. This is the same as irrigation.

Can I use a pitcher or bucket to water my plants?

- Yes. It would be very difficult to overwhelm the system by filling a small container to water plants.

Can I just agree to a boil water notice so I can use my irrigation?

- No. The simple fact is that there is only enough water to supply domestic water service. We are operating with one secondary well. This pump only provides 700 gallons per minute for the entire western water system. When the tank drained to extremely low levels on Thursday morning, we were literally minutes away from losing pressure. There are strict guidelines on water quality, and pressure is a key component. We are able to continue to deliver quality water by managing the pressure. When irrigation systems run, we will lose pressure, and many customers won't have water at all. If that were to happen, the boil water notice would be for 800 water accounts representing about 2,000 people affected by the issue. It's not an effect limited to one house; it would impact the entire water system. If irrigation systems run like they have been, many people would wake up 3 days per week with no drinking water, no water to flush the toilet, no water to take a bath, and the pressure would be so low on the irrigation system that it would not work either.

Why were we allowed to follow a schedule, only to learn that we could not water at all the next day?

- The system was running perfectly at 1,200 gallons per minute (GPM) on Friday. Alarms began to sound on Monday morning when we were only getting 650 GPM from the well. We immediately called in our contractor to diagnose the issue. There were no signs of the well making unusual noises or vibrations even on Monday. The contractor was able to diagnose that the issue was with the pump located 650 feet below ground based on what the amperage readings of the motor revealed. On Tuesday, we woke up to 550 GPM, but we all hoped at that point that the well would continue to pump a reduced amount. At that point, we had to implement the schedule restriction because there would not have been enough water to supply the big irrigation demand. We

sent out the schedule at that point. On Wednesday, the conditions only worsened with the pump at 450 GPM, and by the end of the day, it completely quit. Thursday morning, we knew, would be the lightest irrigation day in the cycle. Even though it was light, the water tank drained to extremely low levels. We were minutes away from losing pressure, so we knew we had to implement a full ban on irrigation.

What has to be done to fix the primary well?

- The pump has to be replaced. When you pull a pump, the column pipe and shaft have to be pulled completely out to get the pump out. The motor has to be removed from the top of the well. This pump is 650 feet below ground, which is quite an operation. We have ordered the replacement pump, motor, and additional electrical parts. When the parts are reinstalled, this well will operate like a brand new one.

Why could we not have avoided this? Why now?

- The City of Ridgeland water operator checks the tanks and wells throughout the city every day. We have high-tech sensors and controls on all our tanks and wells and get alarms when things are not operating correctly. This well showed no sign of failure and has not aged out of its expected life. During the summer months, wells are running peak flows, so it is often that wells fail at the most inopportune time.

What can be done to the system to prevent this from happening again?

- Once the primary well is back in service, it should operate like new and provide all the water needed for the entire water system as it did for the last 14 years until this week. For a better future, the City of Ridgeland has been working on a plan for several years to improve the reliability of the Western system. We are in the process of spending \$41,000,000 to improve the water system. It will take about 3 years to complete. The plan includes three new wells and 4 new water tanks. As a result of the plan, the western water system will gain another 1,500 GPM well and a 500,000-gallon water tank. This system will have more than double the need of the peak demand when complete.

How long is it going to take to fix the well?

- 6-8 weeks is a fast-track schedule for this industry. We have been moved to the front of the line at the manufacturing facility and with the contractor. They all know that our situation is very serious. There is a chance that the well could be done even quicker. We talk with the contractor every day to express the importance. The pump parts are not the type of parts that sit on a shelf. The pump unit is specially designed around many factors that are unique to our specific situation.

Is there anything else that can be done to improve water capacity temporarily?

- We are working with a contractor to identify temporary booster pump(s) that can use water from the lower grade to pump into the western water system. It's a long shot, but we are trying to see if we can get something done quickly. We are most concerned about providing quality drinking water. If we lose Samuels Lane well because it is being overworked, we will be in a different position. We are discussing a temporary domestic water supply from their nearby system with Bear Creek. The Bear Creek

system cannot sustain an unlimited water supply, but we can meet minimum pressure for drinking water if we lose the other well and can connect.

Communication to residents on July 30, 2024:

Dear Residents,

We lost the full functionality of an important water well yesterday, and we are requesting that you help our city work through the next couple of months with some conservation strategies. The affected houses are located in the Western Water System of Ridgeland. In addition to a list of affected streets at the end of this email, a map illustrating the Western system can be found by following this link:

<https://ridgeland.maps.arcgis.com/apps/webappviewer/index.html?id=ff5cee6bb5874ade95404ce28dae61ee>. The affected area is rendered in the red area of the map.

The Western Water System includes two deep groundwater wells and one 500,000 water tank. The well that unexpectedly failed is the largest producing well on the system, but fortunately, the other well is large enough to provide quality drinking water. Our Fire Department has adjusted its firefighting strategy to ensure continued service in this area, but conserving water will only serve to help them in an emergency. I urge you to understand the importance of reducing your irrigation usage during this period. During the summer months, the irrigation demand on our Western Water System is more than 2 times the normal daily domestic (and drinking water) usage. Irrigation systems demand a lot of water in a very short period of time, typically a 3-hour period from 3:00 a.m. to 7:00 a.m., as opposed to domestic demands that span gradually over a 24-hour period. As a result, it takes a massive amount of pumping to supply the irrigation usage in such a short time frame.

That's why we are asking for your help! If everyone participates, we can continue to provide the necessary water for domestic water supply and a reduced irrigation supply. We hope to avoid mandatory irrigation restrictions, so we want to firmly request your consideration of adjusting your irrigation systems immediately to the following schedules:

1. We ask that irrigation systems run for no more than 2 times per week.
2. We ask for residents to reduce their current irrigation run times as much as possible, preferably 50%.
3. We ask for residents with addresses that end in an **ODD** number only water on **MONDAYS** and **THURSDAYS**.
4. We ask for residents with addresses that end in an **EVEN** number only water on **TUESDAYS** and **FRIDAYS**.
5. We are appreciative of any residents that completely turn off their system for the next 6 - 8 weeks. You should be able to easily turn your irrigation timer to the off position.

Even with these strategies in place, you may notice some drop in pressure in the early morning hours. If pressures reduce to a critical level, we will have to employ other measures to meet the important domestic water supply requirements. It is important to us all to have good drinking water, so I hope we can all band together to implement these conservation strategies immediately. If we conserve the irrigation water, we can continue to provide quality water while this critical well is down.

The area affected is only a small area of Ridgeland that is located within an isolated section of our water system. The map link above will show you a map that illustrates the impacted areas (shaded in red). There is a list of streets provided at the end of this email. If your street is not listed, you are not impacted and may continue to irrigate normally.

We are ready to quickly implement the repair plan despite its complexity. The pump's failure was unforeseen due to the depth of the pump which is 650 feet underground. Fortunately, we have an excellent contractor available for prompt repairs. The failed component is the pump, and replacing it necessitates increasing the size of the

motor in order to pump water at greater depths. This motor upgrade also requires replacing several associated parts. Once complete, the system will operate better than ever.

Our contractor has already ordered the material for this emergency purchase, and we are hopeful to have this issue resolved in the next 6-8 weeks. We will continue with weekly updates throughout the conservation period. Thank you for your consideration of this important matter. If you have additional questions, please contact the Ridgeland Public Works Department at 601-853-2027.

WESTERN WATER SYSTEM AREA STREET LIST	
Aaron Lane	High Point Lane
Alexander Drive	Hill Lane
Alice Lane	Hughes Place
Arthur Lane	Kirkwood Drive
Bridgemont Circle	Lake Holleman Place
Bridgemont Lane	Ledora Lane
Bridgeview Circle	Lubertha Road
Bridgewater Bend	Mary Myles
Bridgewater Blvd	North Agency Lane, 818
Bridgewater Crossing, 119 & 121	North Agency Cove
Casmir Drive	North Livingston Road
Cherry Laurel Court	Old Agency Road, 897 - 901
Cherry Laurel Lane	Peatry Pendleton Road
Chicot Cove	Pine Tree Lane
Cypress Cove	Powell Road
Cypress Lane	Red Cedar Cove
Deer Circle	Red Leaf Cove
Fox Hollow Place	Red Oak Cove

Green Glades	Richardson Road, 412 - 500
Green Glades Pass	Rolling Meadows
Green Trace Cove	Rouser Lane
Green's Crossing Road	Rouser Road
Heron's Circle	Samuel's Lane
Heron's Cove	Shallow Cove
Heron's Court	Spring Creek Cove
Heron's Landing	Travis Rodgers Lane
Hérons Lane	Twin Oak Cove
Hickory Road	Walter Payton Lane
Hidden Creek Circle & Drive	White Oak Blvd
Hidden Glades	Woodland Springs Drive
Hidden Oaks Trail	Woodmont Cove
Hidden Oaks Drive	Woodmont Hill
Hidden Oak Cove	Woodmont Way

**For additional information, please contact the City of Ridgeland
Public Works department at 601-853-2027.**