



**Gorgoza Mutual Water Company**  
**Water Conservation Plan**  
**December 15, 2020**



## **System Profile**

Gorgoza Mutual Water Company (Gorgoza) was incorporated in the state of Utah on July 22, 1977. Gorgoza is a mutually owned water company that serves the homes, schools, condominiums, multi-family residences and commercial customers in the Pinebrook and South Ridge subdivisions (See Service Area Map Exhibit A). Gorgoza currently has 1,646 connections serving an estimated population base of 4,602 people broken down as follows:

### **GMWC M&I Water Connections**

Residential	1,629
Commercial	13
Institutional	4
Industrial	0
Unmetered	0
<b>TOTAL</b>	<b>1,646 Connections</b>

The service area for Gorgoza is approximately 96% built out, with only about 60 residential and commercial lots to be built upon.

Gorgoza's distribution system has been engineered to meet the significant demands of the environment and topography. A network of wells, tanks, pumps, booster pumps and pressure reducing valves are required to deliver water to residents separated by over 1,000 feet of elevation change as well as an interstate highway. Gorgoza encounters sub-freezing temperatures for much of the year, and drought conditions during the summer are common. Gorgoza is dependent on winter snowpack to fill underground aquifers and conservation efforts from shareholders to ensure an adequate supply of water.

## **Supply**

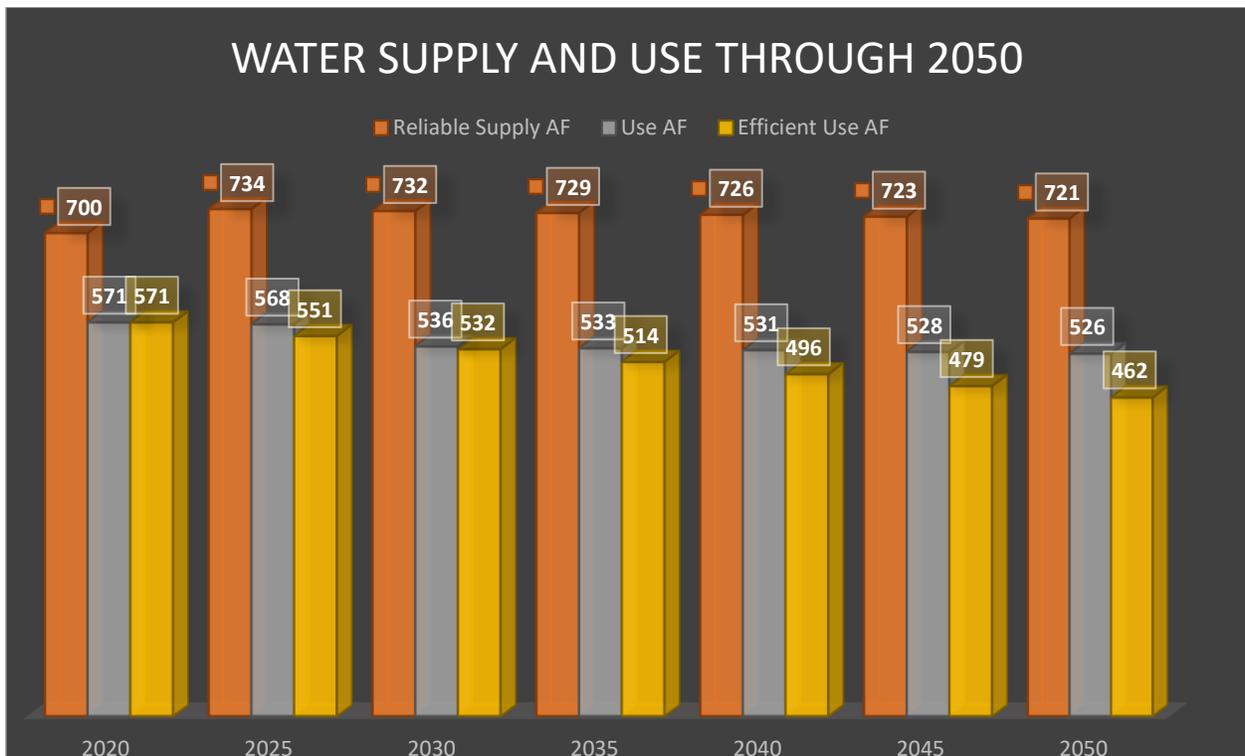
Water is supplied by nine local wells and one naturally flowing spring. Water production from calendar year 2019 in GPM and 1,000 gallon units is as follows:

<b>Source</b>	<b>Volume (GPM)</b>	<b>Total Production</b>
Wells	2,743	175,000
Spring	100	53,000
Surface	0	0
Purchased	0	0
Exchanged	0	0
<b>TOTALS</b>	<b>2,843</b>	<b>228,000</b>

## Water Supply and Use

Over the next 30 years through 2050, Gorgoza anticipates their water supply to remain relatively consistent, assuming no major atmospheric events or long-term drought cycles lasting more than a few years. A new well is proposed to be completed in 2021 that should add approximately 12 million gallons annually to the system capacity. A neighboring winter training facility will require snowmaking during non-peak months of November through February for the foreseeable future and is included in the Use Data for 2021 through 2050. Snowmaking demands are difficult to anticipate because they are so dependent on temperature, natural snowfall amounts and needs of the training facility. Therefore, total snowmaking demand going forward is estimated to be approximately 20 million gallons annually based on use during winter 2019-2020. Fortunately, spring snowmelt will recharge three wells located in the base area of the facility.

Because there is minimal growth anticipated in the foreseeable future, and full buildout of the service area is expected to occur the Company does not expect a major increase in average water use. Through continued conservation efforts such as education, leak detection and graduated water rate schedules along with the Company's internal conservation efforts, efficient use is projected to decrease under normal circumstances as shareholders continue to understand the need to use their water efficiently, and the Company provides more ways for them to do so. As a result, Gorgoza feels it's possible to reduce total water use by approximately 10% over the next ten years and 20% over the next 50 years.



## **Water measurement**

### **Methods and practices**

100% of Gorgoza's connections are metered. All meters in the system (sources and all connections) are read concurrently on or about the same every month. Meters readings are then reviewed for accuracy. Questionable readings are investigated and meters are replaced if not working properly. Certain meters are calibrated annually, if the meter design allows. As part of Gorgoza's long-term capital improvement program, meters will be replaced every 10-15 years with latest technology available, which includes ultrasonic meters with no moving parts.

### **Water System Loss Control**

Gorgoza strives to keep water and revenue loss to a minimum and upgraded to a sophisticated telemetry system installed in 2020 that monitors for leaks or abnormal use within the distribution system. After meter readings have been processed, reports with higher than normal usage are generated. Crews are dispatched to the location and if a leak is detected, the shareholder is notified and educated on how to solve the problem. If leaks are suspected but are not visibly detected, Gorgoza will utilize the services a professional leak detection company to help in locating leaks in main lines as well as lateral lines, if necessary. Gorgoza crews have the equipment and cumulative knowledge to perform system repairs and maintenance in-house, so problems are detected early and corrected as promptly as possible.

## **Assessments and Billing**

### **Progressive Rate Structure**

Water rates have been based on a graduated scale since the Company's incorporation in 1977. The intent from that time forward has been to encourage water conservation by assessing a monetary penalty to those who use excessive amounts of water each month.

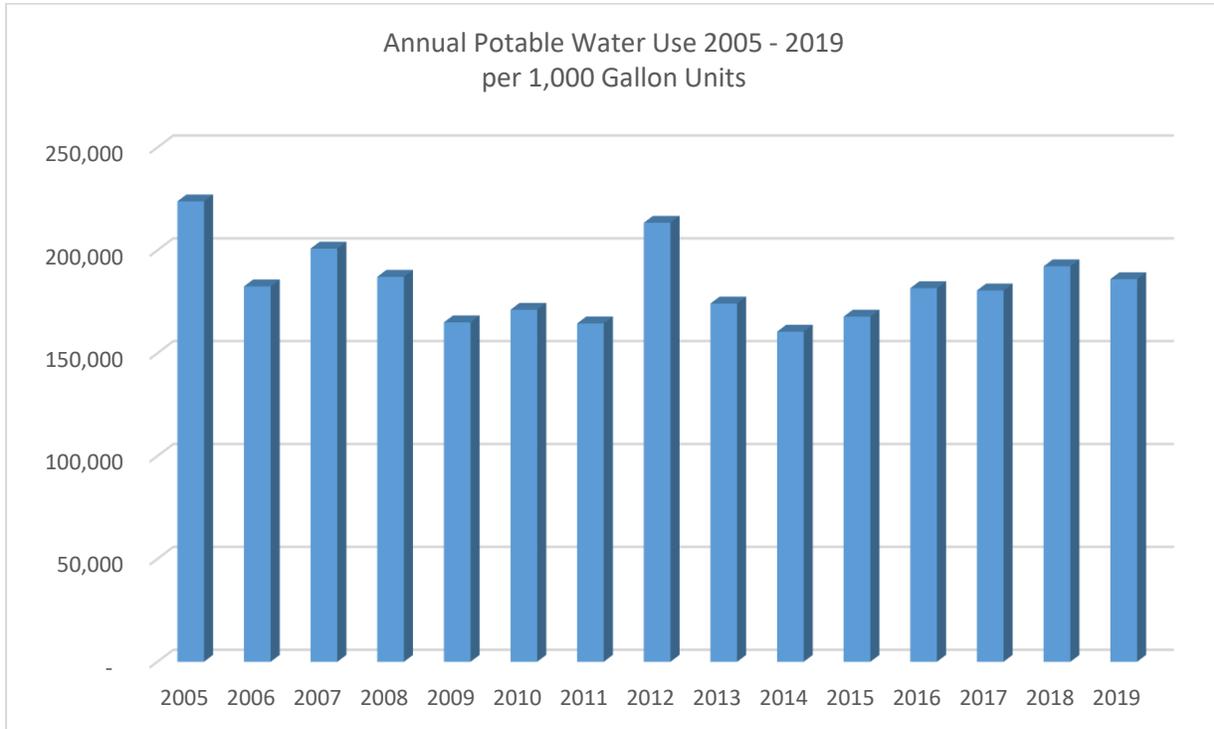
### **MONTHLY WATER USAGE ASSESSMENT TABLE**

For up to 10,000 gallons of water the assessment is \$55.00. Costs for water usage in excess of 10,000 gallons per month are as follows:

<b>GALLONS USED</b>	<b>BASE CHARGE</b>	<b>+</b>	<b>CHARGE PER GALLON</b>
10,000 – 20,000	\$ 55.00		\$.0055
20,001 – 35,000	\$ 110.00		\$.0060
35,001 – 55,000	\$ 200.00		\$.0070
55,001 – 75,000	\$ 340.00		\$.0150
75,001 – 100,000	\$ 640.00		\$.0300
100,001 and up	\$ 1,390.00		\$.0600

## Water Use

Gorgoza does not have a non-potable distribution system. Potable water use by year from 2005 is as follows:



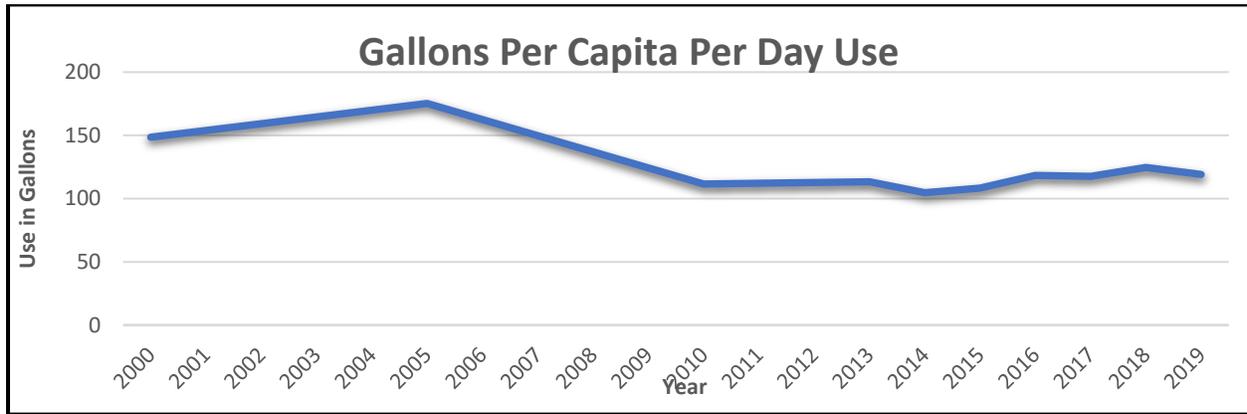
For calendar year 2019, potable water production by volume in 1,000 gallon units was as follows:

Residential     176,000 Gallons  
 Commercial    35,000 Gallons  
 Institutional    17,000 Gallons  
 TOTAL           228,000 Gallons

Per Capita Per Day usage breaks down approximately as follows, based on 2019 production and estimated population base as of 2019:

	Indoor (Winter Use)	Outdoor (Summer Use)
Residential	31	54
Commercial	6	11
Institutional	3	5
Total	40	70

Water efficiency progress from 2005 through 2019 was as follows:



### **Conservation Goals and Practices**

As the graph above indicates, overall water usage has declined and plateaued over the last few decades. This trend is a combination of several conservation practices that have been implemented at various times in the past, but a downward trend is expected to due to new technology to be implemented and major water line replacements projects planned for the system.

Gorgoza Water Company has always been committed to water conservation from its inception in 1977. In the early years of growth, Gorgoza had to be self-reliant because the only source of water was from their wells with no delivery options from neighboring water system. Accordingly, Gorgoza was one of the first water companies in the State of Utah to implement a graduated assessment scale to encourage water conservation.

The number of residential equivalents (RE) served by Gorgoza should plateau within the next 5-10 years. Therefore, the goal of reducing water usage by at least 20% by 2050 should be an attainable goal, however, the State’s goal for our region is 20% by 2030. Gorgoza feels this goal may prove more difficult to reach due to warmer temperatures and declining precipitation trends in our area associated with climate change. These trends, if responded to appropriately, may be the catalyst to further water restrictions simply out of necessity pushing Gorgoza closer to the 20% water reduction goal by 2030.

### **Education**

The board of directors meet in the early spring at their first quarterly meeting to discuss the need for water restrictions during the summer months based on winter snowpack, soil moisture content, prior year precipitation, long range weather forecasts, operational status of the distribution system and other factors affecting water supply. Prior to and during the summer months of highest demand, comments and suggestions are added to the monthly invoices stressing the important to conserve water and to be aware of leaks in their homes. Shareholders are contacted personally by staff if excessive usage is detected by the monthly meter readings to determine whether a leak is occurring, or if the homeowner is simply using water excessively. If necessary, a site visit is made and suggestions are given to either fix the problem or reduce water usage.

There have been long-term drought cycles in years past that have affected Gorgoza's water supply. If restrictions are deemed necessary, the board will order a Notice of Watering Restrictions be circulated to the shareholders as soon as possible explaining the restrictions and penalties assessed if those restrictions are not followed. System operators will patrol the service area throughout the day, evening, and night (if necessary) to enforce the watering restrictions and administer warning and penalties to those not in compliance with the set watering restrictions. Water operators will also keep in constant contact with larger property owners, i.e. condominium HOA's, that use significant amounts of water on their common area each month to ensure that they are also following the watering schedule that they have been placed on.

Over the past few decades, Gorgoza has brought several new water sources online which has increased production greatly. While conservation has always been strongly encouraged, the need for watering restrictions has diminished considerably. Furthermore, there are projects and plans currently in progress to improve the integrity of the distribution. Other factors unique to our service area will also help to reduce water use over the next several decades.

1. Water Line Replacement – In 2019, GMWC replaced approximately 2,000 lineal feet of aging ductile iron water lines and copper laterals with PVC pipe and stainless steel fittings. Gorgoza recently completed phase II of the same water line project, with an additional 2,000 lineal feet of water line replaced this fall. (Note, approximately 5,000 lineal feet of water line was replaced in 2010-2011 along major roadways in Pinebrook, also using PVC pipe and stainless steel fittings.) Water line replacement projects through the remainder of the service area have been included in the system's long-term replacement plan and scheduled based on age and need, with certain areas accelerated due to problematic section of water line. With new water lines, there will be an estimated water loss savings of approximately 4.6 million gallons, or 2% of the system's production.
2. New Telemetry System – In early 2020, Gorgoza invested heavily in upgrades to the telemetry from an outdated radio and DOS based system to a cellular and internet based system. Monitoring and status transmissions are now real-time, so staff are notified immediately if system alarms are triggered. Instant notifications allow staff to respond much quicker in the event of malfunctions that could otherwise waste significant amounts of water.
3. Leak Detecting Equipment – Gorgoza recently purchased sophisticated correlating leak detection equipment to allow staff the ability to quickly locate leaks in the distribution system. Gorgoza plans to systematically check the entire system for leaks that would otherwise go undetected beginning in the spring/summer of 2021.
4. “Smart” Metering System – The Company plans on implementing a “smart” metering application within the next one to three years that will allow shareholders the ability to monitor their water use real-time and receive warnings of excessive usage. The investment will be significant so a definitive date has not yet been established, but allowing users the ability to self-monitor their usage should save a significant amount of water if leaks can be identified and fixed immediately.
5. Mature Landscaping – Gorgoza's service area is unique in that it is nearing 100% build-out. Most homes and multi-family developments have existed for decades and have mature landscaping, so the high demand to place and maintain new landscaping, whether commercial

or residential, will diminish significantly in the next two to three years and not recur again. Gorgoza will work with community associations as they approve new construction to encourage water-saving landscape designs.

6. Future Water Line Replacement – Gorgoza’s service area was built in subdivision phases over a period of approximately three decades. As noted above, a major component to the Company’s long-term plan is replacing aging water lines with much more reliable materials. Once the current replacement project is completed this year, the most problematic areas in the distribution system will be completed with new materials and construction. The next phases of water line replacements is scheduled within the next five years at a cost of about \$356,000.

### Summary of Conservation Goals and Practices

Gorgoza intends to use 2020 as the base year for calculating water reduction goals over the coming decades for the following reasons: Population growth in the service area will be minimal, significant investments have recently been made in water line replacement projects, upgraded telemetry monitoring and correlating leak detection equipment are now in place, and “smart” metering applications for shareholders will be implemented in the near future. In addition, 2020 will include snowmaking demands not experienced in prior years but will provide a basis for calculating higher usage going forward. Gorgoza will continue to monitor water usage on a monthly and annual basis to determine whether the programs listed above are reducing water usage as projected in its water conservation plan. If not, changes such as increases to the graduated water assessment scale, mandatory watering restrictions, and limits on snowmaking water delivery may be implemented by direction of staff and the board of directors.

### Best Management Practices

Water Conservation Board – Gorgoza’s system is small, but the board of directors includes highly educated, long-term residents that effectively serve as the Company’s conservation committee. Members include hydrogeologist, public utility attorney, civil engineers and general contractors. Some members have been on the board for two decades and have been deeply involved with the conservation efforts of the Company during that time.

Public Awareness/PR – The Company’s website contains articles about conservation efforts and links to other guidelines to help shareholders be more conscious of their water usage and understand ways to reduce water use.

Education/Training & Outreach Services – Crews are always willing to visit with shareholders to determine areas where excessive water use is occurring and offering ways to reduce usage.

Ordinances & Standards – Gorgoza has always encouraged watering during evening and early morning hours only. Instances of daytime watering are noted and the shareholder contacted if necessary.

Water Pricing – Since 1977, Gorgoza assessment rate structure has been a graduated scale with significant monetary penalties for excessive water usage. Shareholders are contacted immediately after each monthly meter reading if high use is reported.

Physical System – Gorgoza’s crews routinely monitor the distribution system for leaks. With the new telemetry system implemented in 2020, they receive more accurate and timely notification if tank levels drop or other circumstances arise that indicate potential leaks. As noted prior, meters are read monthly and are replaced every ten years or so to take advantage of the latest technology.

“Smart” Water Monitoring System – Gorgoza plans to implement a real-time monitoring system available to shareholders so they have the ability to monitor their water usage and be immediately notified of excessive water use. Gorgoza will administer the application, therefore they will have the ability to track the number of shareholders who sign up for the program and monitor their login activity. Gorgoza will provide links and tutorials on their website to promote the product help shareholders understand the importance of self-monitoring their water usage to avoid excessive water use assessments. As an incentive to enroll, Gorgoza may consider offering discounts to use the program. Staff is in the early stages of researching the various providers, but anticipates implementing the program in 2021.

## **Adoption of the Water Conservation Plan**

The board of directors of Gorgoza Mutual Water Company will review and approve at their next regularly scheduled meeting in 2020.

Water Conservation Plan Authors

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MEETING OF THE BOARD OF DIRECTORS OF GORGOZA MUTUAL WATER COMPANY  
DECEMBER 15, 2020 – 7:00 P.M. – Via Zoom @ 7950 PINEBROOK ROAD, PARK CITY, UTAH

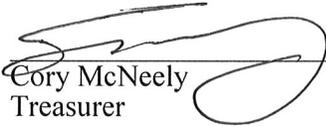
THOSE ATTENDING: Dan Schofield, Colleen Bell, Tom Butz, Tom Farkas, Mike Jamison, Bill Loughlin, Stan Plaisier, Scott Schofield, Cory McNeely, Treasurer and Ted Barnes, legal counsel. Chip Petersen was not in attendance.

Scott brought the meeting to order.

1. David Geffen was introduced to the board. David gave a brief summary of the Pinebrook pool project and funding options, concluding with a request for Gorgoza to loan the project between \$35,000 and \$75,000 at 4% interest. General discussion followed, no motions made during the meeting regarding an approval of the loan.
2. Minutes from the January 22, 2020 meeting were reviewed. Stan made the motion to approve as written. Colleen seconded. Vote all in favor.
3. Minutes from the September 30, 2020 special meeting of the board were reviewed. Bill made the motion to approve as written. Tom Farkas seconded. Vote all in favor.
4. Financial statements at and for the quarter ended September 30, 2020 were reviewed. It was noted revenues were up a bit over the prior year because of increased water usage and meter set fees, but payroll and repair and maintenance costs were also up for the same period. No motions made or voted upon.
5. Cory presented the final draft of the 2020 Water Conservation Plan to the board for their review. General discussion followed, including more detailed conversations about the conservation procedures implemented recently and to be implemented in the coming years. Mike made the motion to approve and adopt the Water Conservation Plan. Stan seconded. Vote all in favor.
6. Cory discussed the need to increase water assessment rates beginning in 2021, noting the last water rate increase occurred in 2008. Reasons include increasing payroll and repair and maintenance costs, future infrastructure improvements and new billing software. Cory suggest an increase of \$15 to the base rate and possible adjustments to the higher tier usage rates to encourage conservation. There was general agreement that \$15 was too high and requested Cory to present proforma projections to the board at various rates for discussion purposes before the January 2021 assessment invoices are sent out.
7. Scott discussed water delivery to Woodward for snowmaking. He noted the Partners Well has been down for several weeks because of a failed pump. Unfortunately, the subcontractor's boom used to replace the pump failed and dropped the pump to the bottom of the well. The subcontractor is working to remove the pump and wire but the well remains out of service.
8. Scott discussed the possibility of using reclaimed water from Snyderville Basin Water Reclamation District (SBWRD) for snowmaking at Woodward rather than using culinary water from wells. The idea has had favorable responses from many parties, including SBWRD and POWDR Corp. Scott noted a supply line would need to be run from SBWRD's treatment facility under I-80 and along Kilby Rd. A possible secondary line could be installed that would provide water for the Ecker Hill

Middle School grass fields. Scott noted the discharge from SBWRD's facility is among the highest quality in the State making the reclaimed water a good option for snowmaking. Tom Butz noted a Woodward facility in Soda Springs, CA uses reclaimed water for their snowmaking operations. Ted clarified using reclaimed water would be in addition to the Woodward Well, not in place of it. Bill added that creative thinking like this will be critical for Utah in future years as climate change continues to affect the state.

9. Scott noted that the US Drought Monitor placed our area of Summit County at Exceptional, the highest level. Scott noted water delivery to Woodward has been significantly decreased due to the drought and Partners Well being out of service.
10. Scott discussed projects completed in 2020. He noted that in addition to the major water line replacement project along Buckboard and Stagecoach Drives, the inside of a significant section of existing water pipe was lined with a protective coating making the pipe much less prone to leaks and extending the useful life by many years. He added there may not be a pipeline replacement project in 2021, but instead the implementation of an online billing system with real-time reporting so owners could actively monitor their water usage. Scott also noted Gorgoza bought correlating leak detecting equipment that will allow staff to quickly and accurately determine water leak locations at any time through the year.
11. The board discussed Dan's retirement date of 12/31/2020 and thanked him for his many decades of service to the Water Company and community.
12. The next board meeting was scheduled for 7pm on January 21, 2021 via Zoom.
13. No other matters were voted upon. Motion made to adjourn. Vote seconded. Vote all in favor. Meeting adjourned.

  
Cory McNeely  
Treasurer



## RESOLUTION

BE IT RESOLVED: the Board of Directors of the Gorgoza Mutual Water Company (the "Company") ratifies and approves the 2020 Water Conservation Plan.

Approved and adopted on December 15, 2020 by the Gorgoza Mutual Water Company Board of Directors.

A handwritten signature in black ink is written over a horizontal line. The signature is stylized and appears to read "Cory V. McNeely".

Cory V. McNeely, CPA

Treasurer