WATER CONSERVATION PLAN

October 2025

Prepared for:

Smithfield Irrigation Co.

Pat Draper, President

(435)-563-3161

27 West Center Street

Smithfield, Utah 84335

Prepared By:

Steven Wood, PE

2100 North Main Street

North Logan, Utah 84341

Tel: 435-563-3734

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A. WATER USE REDUCTION GOAL AND IMPLEMENTATION PLAN

Several alternatives have been considered by the Smithfield Irrigation Company (SIC) to remedy the problems and challenges posed by the existing system. To solve these problems SIC has identified alternatives for their system. The first alternative is metering connections. The second option is to replace or repair sections of pipes that are at risk of leaking. The final alternative for their system is to replace the Black Pipe and redesign all its existing diversion structures for better sediments removal efficiency.

Smithfield Irrigation Company has a goal to reduce water usage by 20% in the next 5 years. This goal was set because of the need to conserve water spurred by Utah's governor. Utah is no stranger to drought conditions. The Logan River, a source of water for SIC, has been near record lows all summer. Cache County has seen drought conditions each of the past 20 years according to Drought.gov. Therefore, SIC understands that there is a need for water conservation.

Smithfield Irrigation Company was previously required to install meters for all its secondary water connections per the requirements of House Bill (HB) 242. According to the studies conducted by Weber Basin Water Conservancy District from 2012 – 2018 on the effects of secondary meters on consumption, connections with meters used 20 – 30% less than connections without a meter.

However, due to the absence of direct storage facilities within SIC's system, Sunrise Engineering has been contracted by SIC and successfully applied the metering exemption for SIC's irrigation system. Instead, SIC commits to complete another water improvements project and strategic metering all its water sources. This water improvements project includes rehabilitating its existing deteriorated Black Pipe, installing a new 12" pressurized pipeline and replacing its five old and low-efficiency diversion structures.

B. SUPPLY INFORMATION

In 1915, the Smithfield Irrigation Company was founded due the merger of Smithfield Irrigation District and the Brickyard System. When SIC was first founded, water was supplied through a web of gravity fed canals, ditches, and diversions from canyons to residents and farms. Over time the system was upgraded and is now a completely pressurized underground system. Residential connections throughout the system are 1" and 2". Agricultural connections vary from 2" to 8".

Water is supplied by the Smithfield Irrigation Company through the months of April to October. Farms that SIC supply water to are especially reliant on water during a six-week stretch from mid-June through August. During this time water is vital for optimal crop growth and production. If water supply is altered during this time and crops do not receive enough water, financial losses to farms will result from smaller yields. Thus, it is critical that a viable irrigation conveyance system be maintained through the Smithfield Irrigation Company.

Values shown in Table 1 are average volumes taken from each of the different sources from the past 20 years. SIC operates many different sources to add redundancy to the system.

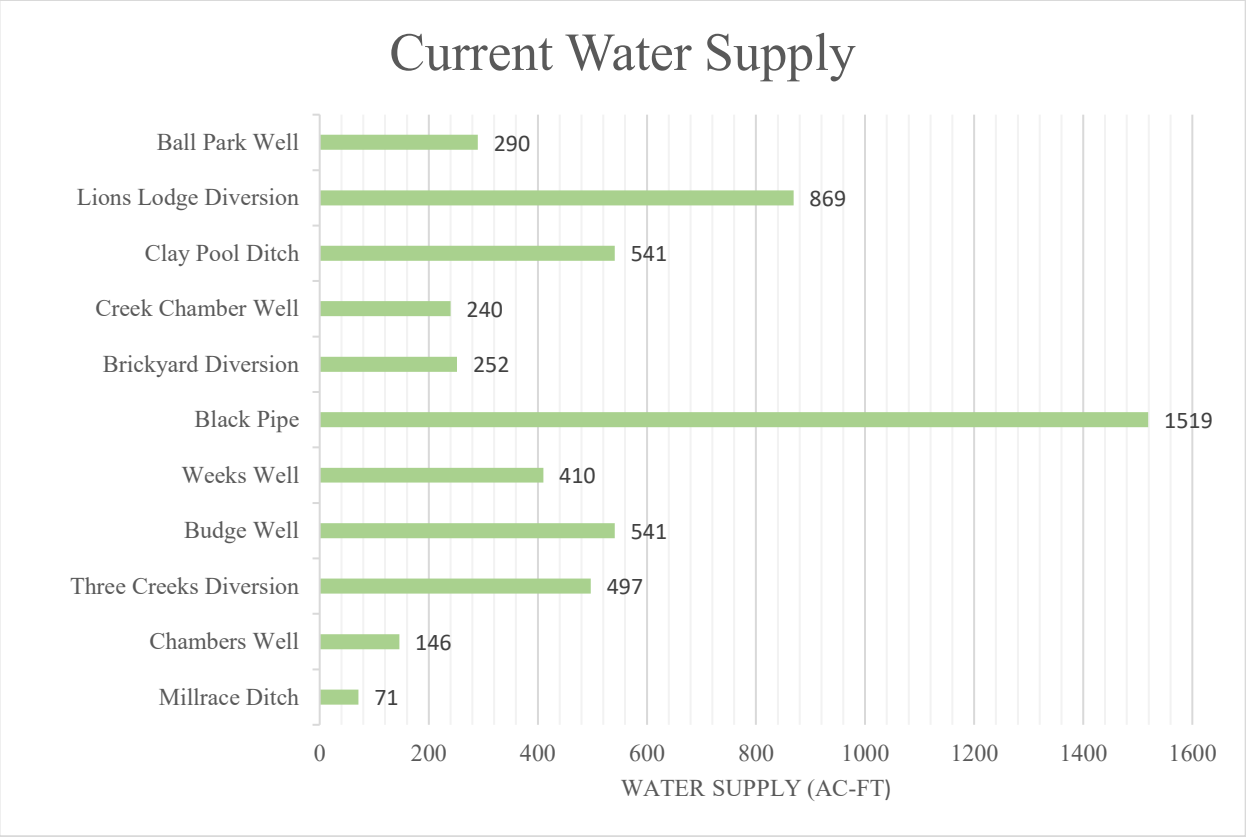

Figure 1: Water Supply Sources

Figure 2 shows the irrigation system that is owned and operated by the Smithfield Irrigation Company. The Smithfield Irrigation Company has 1,100 connections throughout Smithfield City and the farmland that surrounds it. SIC supplies water to over 3,800 acres of land. The different types of connections are broken down in Table 1.

Table 1: Connection Information

Connection Type	Number of Connections
Residential	782
Commercial	9
Institutional	14
Industrial	1
Agricultural & Residential	166
Agricultural	128
Total	**1100**

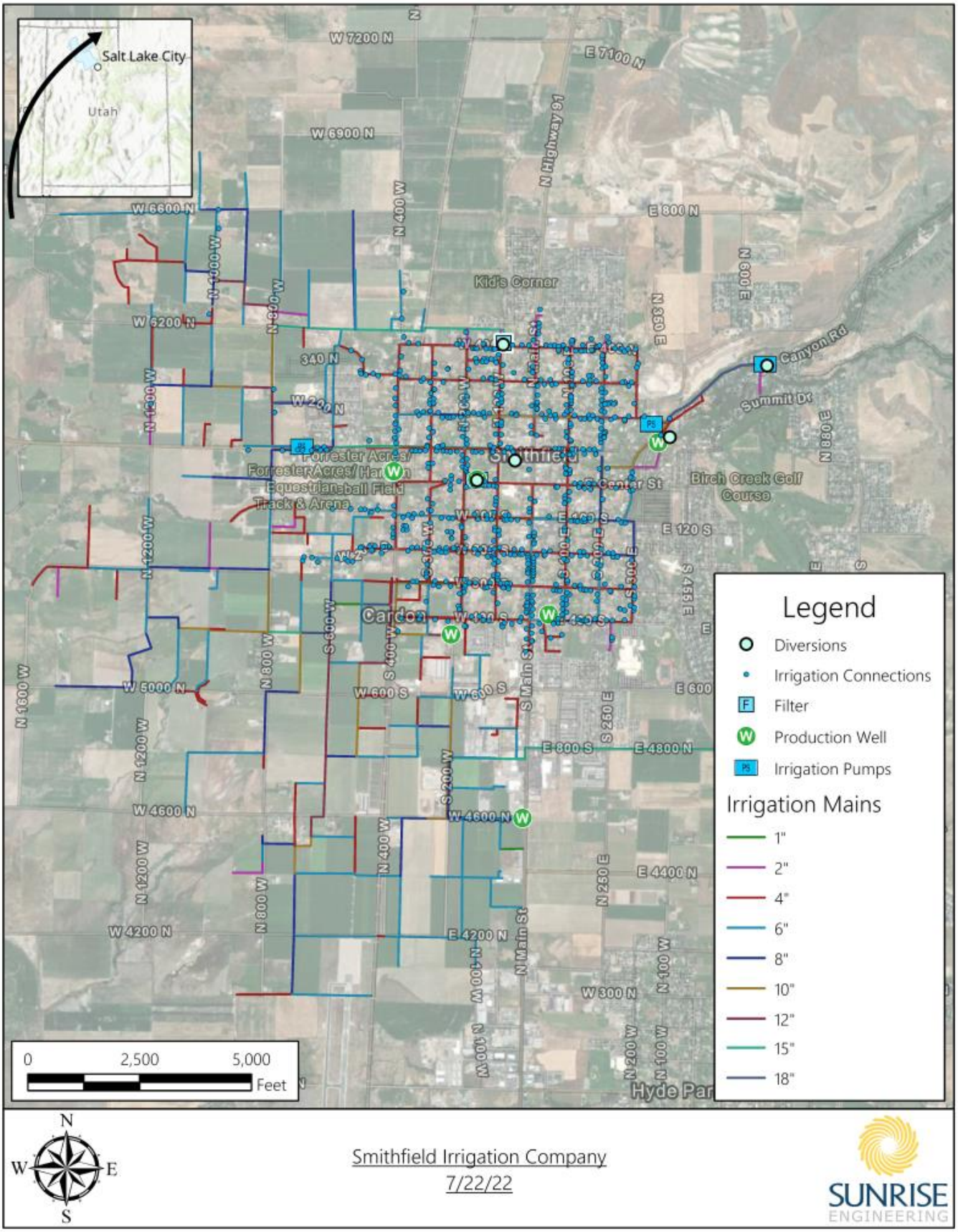

Figure 2: Service Area Map

Water supplies by Smithfield Irrigation Company are granted by eight separate water rights, the oldest of which is dated May 1st, 1860. The eight rights allow for a maximum of 52.71 cfs to be used at any given time during the irrigation season of April 1st to October 31st. There are 3,432.39 shares available within SIC, each share granting the use of 1 ac-ft for the irrigation season. Table 2 summarizes Smithfield Irrigation Company's water rights.

Table 2: Water Right Summary

Water Right	Source	Flow (cfs)	Quantity (ac-ft)
25-2320	Underground Water Well	2	--
25-3218	Underground Water Well	6.66	--
25-3308	Underground Water Well	5.02	--
25-3338	Underground Water Well	5.53	--
25-6985	Summit Creek	33.5	--
25-2439	Underground Water Well	--	1.16
25-6328	Underground Water Well	0.029	--
25-7362	Underground Water Well	0.015	1.224

Cache County has grown by 2.9% over the past year according to gardner.utah.edu. Smithfield City continues to grow and develop the farmland that surrounds it. This has forced the area to look at ways to conserve more water. The State of Utah consumes the 2nd most water per capita in the country. Residents and farms that are supplied water by SIC are consuming more than the states average. Considering drought conditions and increasing populations, Smithfield Irrigation Company is aware that current consumption levels are not sustainable with current growth levels.

C. WATER MEASUREMENT

Currently, none of the secondary connections that SIC supplies water to are metered. The only place that volumes are measured in the system is where water enters. All sources of water can quantify the volume of water that enters the system through that source. Once water enters the system there are no other ways to determine flow or usage. SIC does post on their website that random spot checks may be done to determine if users are overconsuming.

D. SYSTEM WATER LOSS

Water losses within the Smithfield Irrigation Company are minimal. The entire system is pressurized, resulting in a decrease of pressure when a leak is present. If this scenario happens, users notify SIC, and the leak is repaired. Current Water Master, Darin Evans, estimates that less than 3% of all water that enters the system is lost.

If the water master's estimation is correct of 3% losses, that would equate to 162 ac-ft of water is lost every year. Loss calculations cannot be determined due to the lack of outflow metering. Losses do not result in any revenue losses for SIC because they do not charge users by volume of water that is used.

E. WATER USE

Most of the water supplied by Smithfield Irrigation Company is used for sprinkler irrigation. Agricultural connections produce alfalfa, grain, and corn using the water supplied by SIC. Residential connections use water to irrigate lawns and gardens. Commercial and Institutional users consume water to irrigate grass and flora surrounding their establishments.

Presently, Smithfield Irrigation Company does not meter the end users and has meters solely on the sources for the system. On average, SIC consumes 5,400 acre-feet a year. This water serves 3,800 acres of a mixture of agricultural ground and developed ground. Presently, 25% of the serviced area has been developed. Out of the ten separate sources that feed the system, three sources are consumed completely by developed acreage, the Three Creeks Diversion, the Budge Well, and the Weeks Well. These three diversions service 700 acres of developed ground. According to the flow data recorded, these three sources produce on average 1,500 acre-feet of water during the irrigation season for the developed areas, which equates to 2.14 acre-feet of water per developed acre.

Table 3 also shows the water used per capita of the different type of connection. All water used is secondary non-potable water.

Table 3: Water Demand by Connection Type

Type of Ground	Total Acres in SIC System	Water Use per Capita (gal/day)	Demand per Acre (ac-ft/acre)
Developed	950	283	2.14
Agricultural	2,850	501	1.18
Total	**3,800**	**784**	**1.42**

Smithfield Irrigation Company assigns users a specified amount of water that they are allowed to use throughout the irrigation season. However, neither the user nor SIC knows how much water they have used. This has led to overconsumption by users. During times of drought like the 2020 - 2021 summers, overconsumption can lead to issues for SIC in the form of decreased pressures. Users are charged for their shares and an annual connections fee. With strategic metering of all its water sources, SIC will be able to accurately monitor the total water usage within its whole system.

Typical annual water consumption is 5,400 ac-ft of water for the entire system. All water that is supplied by SIC is secondary, non-potable water. The water for the system is drawn from the Logan River through the Black Pipe, Birch Creek, Summit Creek, and five separate wells. SIC has 1,100 connections throughout the system, majority of which are residential connections. The average lot size the Smithfield

Irrigation Company services is nearly 4 acres. Most ground that is serviced by SIC is farmland, 2,850 acres, 75% of all ground irrigated by the Smithfield Irrigation Company is farmland. Total water supplies for SIC are 22,268 ac-ft available April 1st - October 31st.

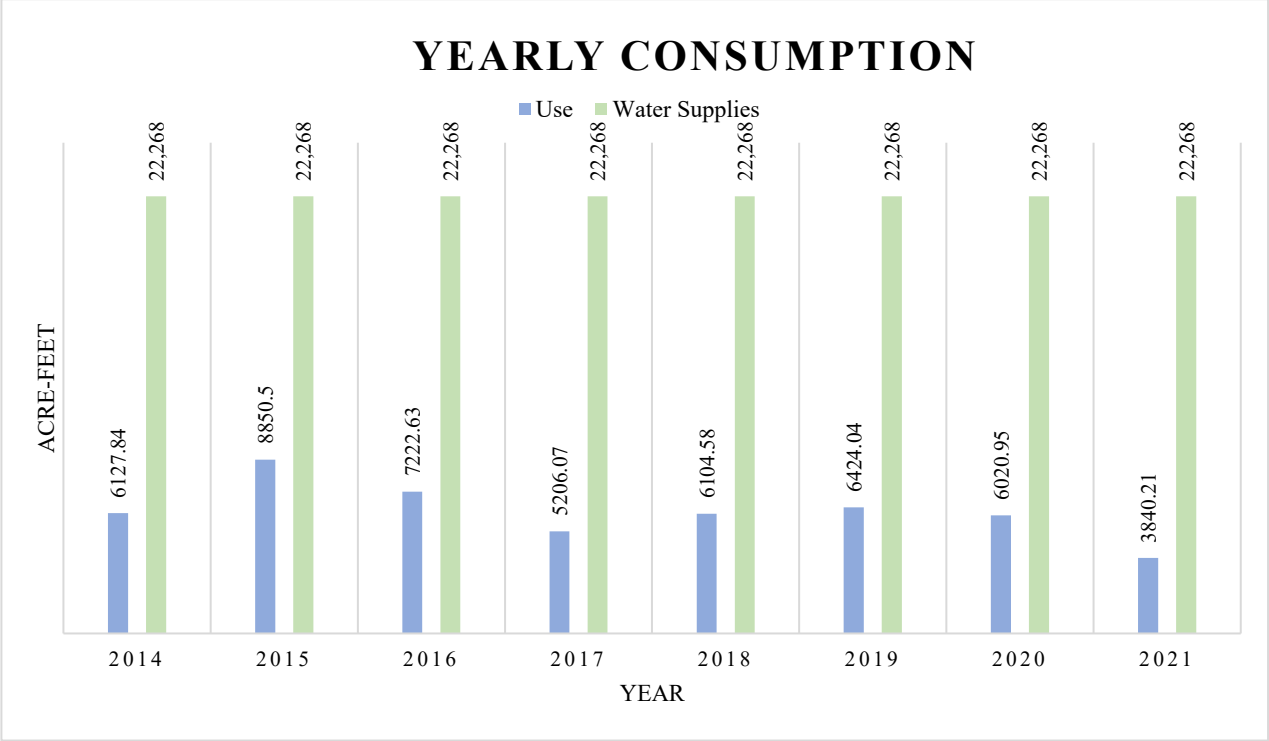

Figure 3: Annual Consumption and Water Available

Yearly consumption varies depending on weather conditions and water availability. In Figure 3 and 4, there is a noticeable decrease in consumption in 2021. That was due to the Black Pipe, a major conveyor of water for SIC, being out of operation for part of the summer due to a blockage. Excluding that year from the data, average consumption is 283 gallons per day per capita.

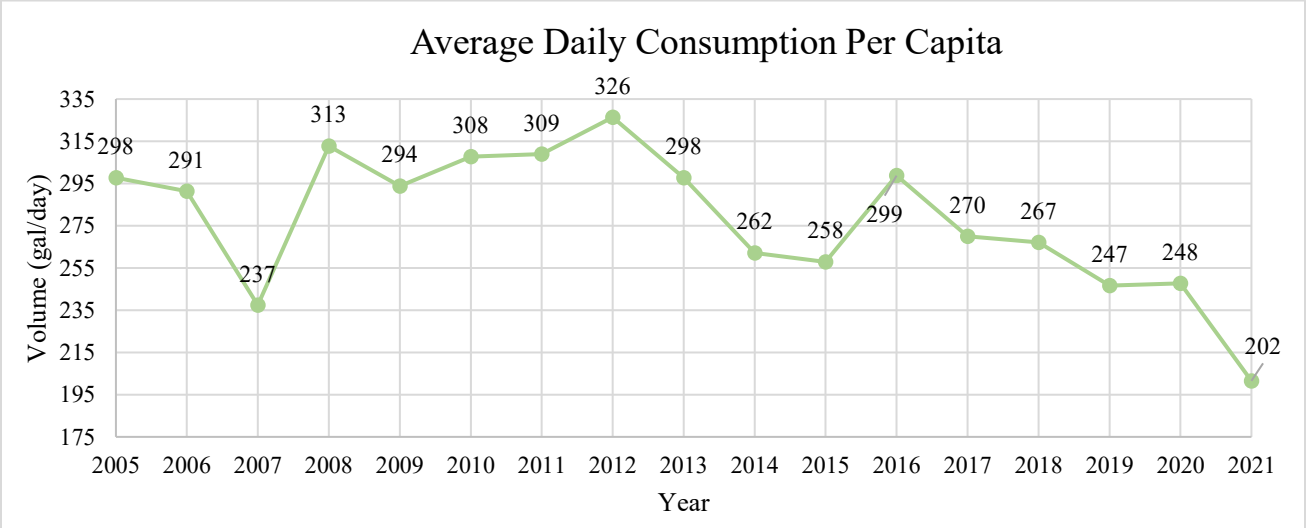

Figure 4: Daily Consumption per Capita

F. WATER CONSERVATION PRACTICES

Currently, Smithfield Irrigation asks users to only water every other day and if possible, only water 2 - 3 times a week. Smithfield City also asks residents to reduce water consumption by sharing Governor Cox's executive order from 2021. This order indicates that changes must be made to water usage. Current consumption rates will not be sustainable. Smithfield Irrigation Company is excited to rehabilitate the deteriorated Black Pipe, replace its five diversion structures with better sediments removal efficiency to prevent overwatering, as well as installing meters to track all its water sources at critical locations. Strategic metering in this system can allow the company aware any abnormal usage or leaks.

G. PERIODIC EVALUATION

To evaluate the effectiveness of the newly installed strategic meters, Smithfield Irrigation Company will closely monitor water consumption from each source. Once data is collected, it will be recorded and stored using the proposed SCADA system and cloud-based configurations. The installation of all strategic meters is expected to take seven months. SIC will periodically test each meter to verify proper operation. Testing will be performed on individual meters in a manner that demonstrates functionality. Any meter found to be malfunctioning will be recalibrated, repaired, or replaced as necessary.

H. ASSOCIATED PLANS – EMERGENCY RESPONSE PLAN

The Smithfield Irrigation Company current emergency plan is filed with the Cache County Emergency Department. In the case of an emergency, a user would contact the Water Master – Lyle Coleman, and Assistant Water Master – Darin Evans. Depending on the situation and severity of the situation, Darin would contact Cache County Emergency Department at (800) 429-8134.

I. CERTIFICATE OF ADOPTION

We, Pat Draper, Chris Chambers, Dennis Thornley, Lisa Peterson and Darin Evans (comprising the Smithfield Irrigation Company Board of Directors), hereby certify that the Conservation Plan has been established and adopted by our company board of directors, on _____, 2025.

Pat Draper	President	10/7/2025
Name: Pat Draper	Title: President	Date
Chris Chambers		10-7-25
Name: Chris Chambers	Title: Vice President	Date
Dennis Thornley	B Director	10-7-25
Name: Dennis Thornley	Title: Board Member	Date
Lisa Peterson	D Director	10-7-2025
Name: Lisa Peterson	Title: Board Member	Date
Darin Evans	A Director	10-7-2025
Name: Darin Evans	Title: Board Member	Date