

WATER CONSERVATION PLAN
FOR
CEDAR CITY, UTAH



DECEMBER 2024

Prepared by the
Cedar City
Engineering Department

**CEDAR CITY, UTAH
2024 WATER CONSERVATION PLAN**

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I. INTRODUCTION

Cedar City, Utah is located in Iron County in the southwest part of the State of Utah. Reliable water service has always been a high priority for Cedar City citizens and leaders. This water conservation plan is written to address current and long-term issues relating to water use and conservation in Cedar City. This plan is also written to comply with the Utah Water Conservation Plan Act (73-10-32, UCA). Concerns over the future cost and availability of potable water have given rise to increased awareness of the importance of water conservation. This report will assess the current state of the City's water system, discuss future water needs, and provide recommendations for water conservation measures.

Water conservation is an idea that most people in the western United States understand and accept as something that is worthwhile. Utah is the third driest state in the country with very little rainfall. This lack of rainfall causes high water use during the summer months to grow crops and to keep lawns green.

In Cedar City, water is used to maintain and enhance the beauty of the community, not only to tourists, but also to our friends and neighbors. Water is used to keep our lawns, ball fields, parks, school campuses, and recreation areas green and inviting for public and private use. These amenities enhance the lifestyle of those in the community and provide a pleasant place to raise families.

Unfortunately, the use of water to enhance and beautify the community comes at a price. Water is not free - water infrastructure, acquiring water rights, and maintaining the distribution system are all costly endeavors. Customers are billed for their water use to fund expenditures from the City's water enterprise fund.

Water resources in the Cedar City area are limited. Every year there is more pressure on the area's water supply as the population grows and more water is needed to meet the high demand of turf irrigation in the summertime. Currently, Cedar City obtains culinary and pressurized irrigation water from ten (10) active wells, three (3) major spring sources, and one (1) surface water pump station in the Cedar City area.

Cedar City can reduce water usage in two ways:

1. Reduce peak day demand;
2. Reduce overall usage.

A water system, much like an urban highway, must be designed to handle the peak loading. The water sources, storage, and piping must all be designed and constructed to handle that single day during the year when the demand is the highest. The "peak day" occurs during the summer irrigation season when a majority of the customers are watering their lawns. The cost to supply water for irrigation is much higher than it is to supply water for indoor usage that occurs every day of the year. Therefore, any reduction that can be made in peak day water usage translates directly into significant savings in capital costs. By reducing the peak day demand, the system has already saved money because fewer pumps, less storage, and smaller piping is needed. In

addition, a reduction in peak day usage will result in less strain on the system and ensure that each customer will be served without interruption.

Reduction in overall water usage provides several benefits. Since Cedar City relies on groundwater resources for its supply, groundwater recharge is a very important issue. Groundwater is replenished by precipitation - rainfall and snowmelt. Currently, water users in Cedar Valley are mining groundwater in the aquifer. "Groundwater mining" means that water is being pumped out of the ground faster than it can be recharged. In the future, groundwater levels may rise if there is an extremely wet year, however, we do not know if or when a wet year may occur. In the meantime, we must plan, considering that our resources are in decline.

One problem that Cedar City faces is that there is a perched aquifer of poor-quality water that may have begun to mix with the aquifer of good quality water. Heavy pumping of good quality water has compounded this problem. This has caused the differential to decrease such that co-mingling may occur between the two in the future. By reducing the overall culinary water usage, we may be able to preserve the resources of good quality water, minimize groundwater mining, and slow down the process of co-mingling between the good and poor quality water. In addition, a reduction in water usage will result in reduced operation and maintenance costs (i.e. lower pumping costs, etc.). It also may help in deferring capital costs, although not as much as decreasing peak day demand will help.

In addition to the perched aquifer, there is a problem with the overall decline of the Cedar Valley aquifer. Over the past several years the water table in the aquifer has been declining by about 3 feet per year. The aquifer decline is very concerning because it leads to increased electrical costs for pumping and increased capital costs for installation of pump equipment at lower depths. Cedar City has begun working with the Central Iron County Water Conservancy District (CICWCD) to try and find solutions that will help to stabilize the aquifer through aquifer recharge projects. Water conservation can be a key component of this effort to restore the aquifer to its proper balance.

II. DESCRIPTION OF CEDAR CITY'S WATER SYSTEM

The population of Cedar City is estimated to be 41,314 as of July 2024 using data from the US Census Bureau and Kem C. Gardner Institute. Providing good quality water to all residents of Cedar City has always been a top priority for the City government. As a result, the City's water system is well maintained and operated to provide water when and where it is needed. In 2023, the City provided water to 10,007 active water connections.

Cedar City residents and officials place a high value on open space. Consequently, approximately 150 acres of land within the city limits have been set-aside as parks, a golf course, and a cemetery. Landscaped areas around churches, schools, and major industries occupy approximately another 160 acres of land. This open space, while inviting and healthy for the community, puts a strain on the City's water system during the summer months.

As Iron County’s largest city, Cedar City sees a significant portion of the county’s residential, commercial, and industrial growth. Through careful planning and proper utilization of this precious resource, the increased demand for water will be adequately met.

III. SYSTEM PROFILE

A. Map of Current Service Area

Refer to Figure 1 of Cedar City’s current service area in Appendix A.

B. Number of M&I Water Connections

The following table lists the number of Municipal and Industrial (M&I) water connections within the service area of Cedar City.

Table 1: Number of M&I Water Connections

| Type of Water Connection | Number of Connections |
|---------------------------------|------------------------------|
| Residential/Domestic | 8,819 |
| Commercial | 871 |
| Institutional | 257 |
| Industrial | 60 |
| Unmetered | 0 |
| Total | 10,007 |

C. Cedar City Population

The following table shows historical population for Cedar City based on information reported to the Utah Division of Water Rights or as projected into the future using data from the US Census Bureau and Kem C Gardner Institute (indicated with an asterisk-*).

Table 2: Cedar City Historical and Future Population

| Year | Population |
|-------------|-------------------|
| 2060* | 60,603 |
| 2050* | 56,402 |
| 2040* | 52,664 |
| 2030* | 48,091 |
| 2024* | 41,314 |
| 2023 | 39,942 |
| 2022 | 38,743 |
| 2021 | 37,359 |
| 2020 | 35,235 |
| 2019 | 33,055 |
| 2018 | 30,990 |
| 2017 | 30,980 |
| 2016 | 30,184 |
| 2015 | 29,483 |
| 2014 | 29,162 |
| 2013 | 29,118 |
| 2012 | 29,213 |
| 2011 | 28,950 |
| 2010 | 28,875 |
| 2005 | 24,000 |
| 2000 | 20,575 |

IV. SUPPLY

A. Current Water Supply

The following table shows the current water rights owned by Cedar City, categorized by water source.

Table 3: Current Water Supply

| Source | Annual Volume (acre-feet) | Annual Volume (million gallons) |
|---------------|--------------------------------------|--|
| Wells | 17,054 | 5,557 |
| Springs | 1,411 | 460 |
| Surface | 1,074 | 350 |
| Purchased | 18 | 6 |
| Exchanged | 0 | 0 |
| Total | 19,557 | 6,373 |

B. Groundwater Depletion, Aquifer Recharge, and Storage & Recovery

The Cedar Valley aquifer is currently being overdrawn. The Utah Division of Water Rights has published information stating that the aquifer is currently being overdrawn by approximately 7,000 acre-feet per year. The Division of Water Rights has determined that the safe yield of the aquifer is 21,000 acre-feet; while the average annual withdrawal from the aquifer is 28,000 acre-feet. Over the past several years the water table in the aquifer has been declining by about 3 feet per year.

Cedar City has been doing aquifer recharge for more than a decade. The recharge is done at gravel pits near the Cedar City airport. The City has recently been partnering with the CICWCD to construct additional recharge projects in the Cedar Valley. The following table provides a list of the recharge projects:

Table 4: Cedar Valley Recharge Projects

| Location | Recharge Amount Water Year 2023-24 (acre-feet) | Potential Recharge Capacity (ac-ft/year) | Year Constructed |
|----------------|--|--|------------------|
| Schmidt Pit | 116 | 2,000 – 4,000 | 2017 |
| Airport Runway | 0 | 1,500 – 2,000 | 2005 |
| Horse Alley | 61 | 1,000 | 2018 |
| Western Rock | 211 | 6,000 | 2017 |
| Enoch | Unknown | 500 – 1,500 | 2016 |
| Quichapa | 0 | 100 | 2017 |
| Quichapa Creek | 10 | 100 | 2021 |
| Total | 398 | | |

C. Water Supply and Use

The following table and graph show the following items regarding Cedar City’s anticipated water supply and water use through the year 2060. Based on the proposed regional water conservation goals prepared by the Utah Division of Water Resources, it is assumed that the goal of a 19% reduction is achieved. The “efficient water use” for Cedar City has been determined based on a 19% reduction in water use.

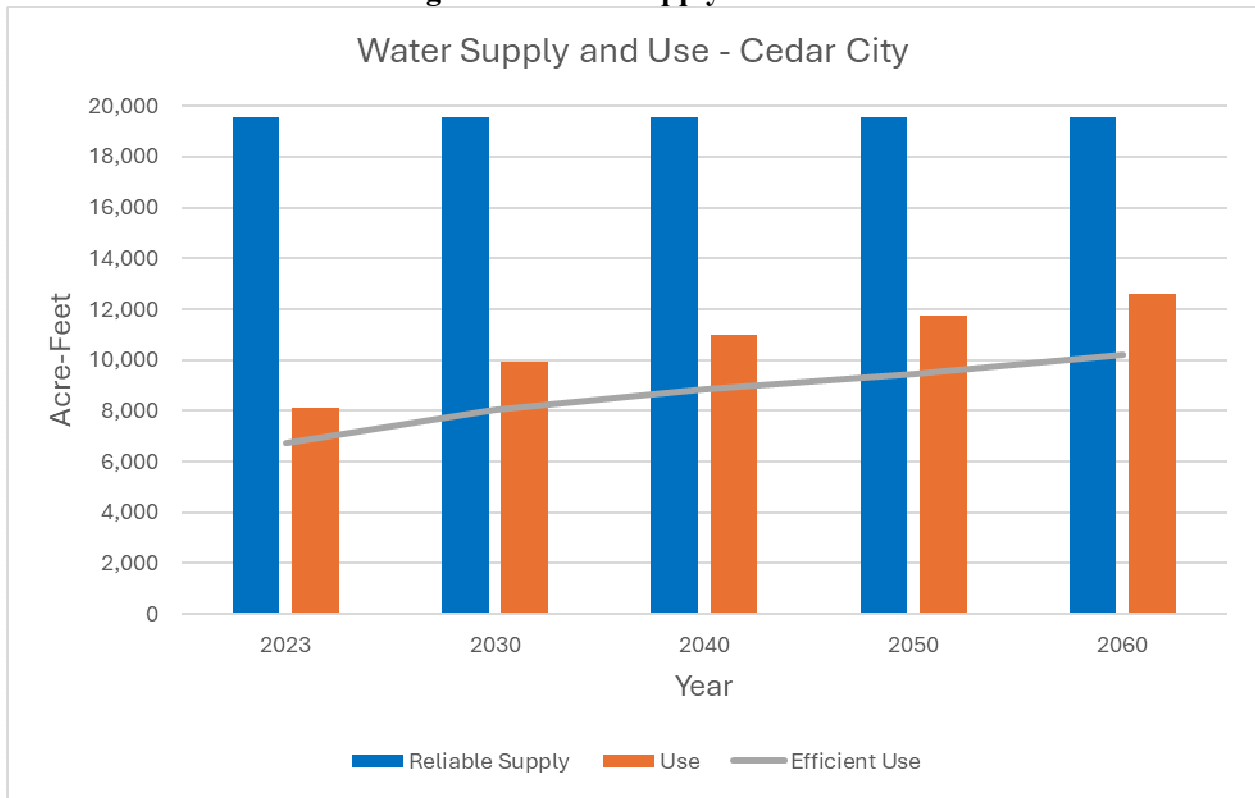
Cedar City’s current reliable water supply is 19,577 acre-feet annually from available water sources. The City currently owns 23,690 acre-feet of water rights. Figure 2 reflects this lower amount for the reliable water supply. In the year 2060, the reliable water supply is adequate to meet the water use demands. In the future, the limiting factor will be the Groundwater Management Plan in Cedar Valley. Cedar City currently has 4,788 acre-feet of safe yield underground water rights, 4,848 acre-feet of spring rights, and 1,759 acre-feet of surface rights for a total of approximately 11,395 acre-feet that would be safe from the final cuts under the Groundwater Management Plan.

It has been assumed that the number of water rights will remain the same; however, the City is actively pursuing purchasing new water rights and acquiring water rights with development. This number is conservative because the number of water rights owned by the City will likely increase over time as the City seeks to purchase and acquire more safe yield water rights.

Table 5: Water Supply and Use

| Year | Reliable Water Supply (acre-feet) | Water Rights (acre-feet) | Water Use (acre-feet) | Efficient Water Use 19% Reduction (acre-feet) |
|------|-----------------------------------|--------------------------|-----------------------|---|
| 2023 | 19,557 | 23,690 | 8,100 | 6,711 |
| 2030 | 19,557 | 23,690 | 9,951 | 8,025 |
| 2040 | 19,557 | 23,690 | 10,972 | 8,849 |
| 2050 | 19,557 | 23,690 | 11,751 | 9,477 |
| 2060 | 19,557 | 23,690 | 12,626 | 10,183 |

Figure 2: Water Supply and Use



V. WATER MEASUREMENT AND BILLING

A. Universal Metering and Measuring

The following information is provided for Cedar City’s water system regarding its’ current water measurement methods and practices. The following table describes the status of the best practices in the City’s water system.

Table 6: Universal Metering and Measuring

| Foundation Best Practices | Best Management Requirements | Is the Best Practice implemented in Cedar City’s water system? | Status of Best Practices |
|----------------------------------|-------------------------------------|---|---|
| Basic | Source Water Meters | Yes | All water sources are metered at the source. |
| | Meter all Sectors & Connections | Yes | All customer connections are metered. (except for 4 City irrigation connections) Sectors of the system are not metered. |
| | Read Meters | Yes | All source meters and customer meters are read by City personnel. |
| Intermediate | Fixed Interval Meter Reading | Yes | All water meters are read on a fixed interval by City personnel as follows: <ul style="list-style-type: none"> - Source meters are read <u>daily</u>. - Customer meters are read <u>monthly</u>. |
| | Meter Accuracy Analysis | Yes | Meters are tested for accuracy, if a customer calls and requests for their meter to be tested. |
| Advanced | Test, Calibrate, Repair, & Replace | Yes | Meters are tested for accuracy upon customer request. Meters are replaced when they stop working. Meters are repaired, as needed. |

1. Percent of Metered Connections by Type:

The following table lists the percentage of metered connections by type in the Cedar City water system.

Table 7: Percentage of Metered Connections

| Type of Water Connection | Number of Connections | Number of Metered Connections | Percentage of Metered Connections |
|---------------------------------|------------------------------|--------------------------------------|--|
| Residential/Domestic | 8,819 | 8,819 | 100% |
| Commercial | 871 | 871 | 100% |
| Institutional | 257 | 257 | 100% |
| Industrial | 60 | 60 | 100% |
| Total | 10,007 | 10,007 | 100% |

2. Meter Reading Frequency:

All water meters at customer connections within the service area of Cedar City are read and billed on a fixed interval basis. All water meters are read on a monthly basis. Utility bills are also sent out to customers on a monthly basis.

All water meters at City water sources are read on a daily basis and logged on data sheets.

3. Meter Calibration Schedule:

There is no set meter calibration schedule. However, if a customer calls and requests for their meter to be tested, then the City Water Division has a meter set up so that they can run the same amount of water through two meters and compare the readings.

4. New Development Laws:

All new developments within the service area of Cedar City require a meter setter to be installed at the time the subdivision is constructed. A water meter is required to be installed when a building is actually constructed. All meters must be purchased directly from the City. The water meters remain the property of Cedar City. It is against City ordinance for anyone to tamper with water meters. Only City personnel are allowed to work on the meters.

5. Meter Replacement Schedule:

Cedar City replaces water meters when they stop working.

B. System Water Loss Control

The following information is provided for Cedar City’s water system regarding its’ current system water loss control methods and practices. Cedar City has an active water loss control program. The following table describes the status of the best practices in the City’s water system.

Table 8: System Water Loss Control

| Foundation Best Practices | Best Management Requirements | Is the Best Practice implemented in Cedar City’s water system? | Status of Best Practices |
|----------------------------------|-------------------------------------|---|---|
| Basic | Repair Known Leaks | Yes | The Cedar City Water Division repairs known leaks in the water system as promptly as possible. |
| | Infrastructure Maintenance | Yes | The Cedar City Water Division properly operates and maintains all infrastructure in the City water system. The City also has an on-going annual program to replace sections of older waterlines that are known to have significant leakage problems or that are undersized. |
| Intermediate | Water System Audit | Yes | As part of Cedar City’s annual Water Report, a water system audit is performed to determine the percentage of leakage and unaccounted-for water. |
| | Leak Detection & Repair | No | Cedar City has done leak detection in the past; but the City does not currently have an active leak detection program in place. |
| | Automated Sensors/ Telemetry | No | Cedar City does not currently use automated sensors or telemetry for leak detection. |
| Advanced | Loss Prevention Program | No | Cedar City does not currently have an official loss prevention program in place. However, if any illegal connections are found then the problem is promptly addressed by the City Water Division. |

1. Water and Revenue Losses:

The following table lists the water losses in the City’s culinary water system up to, and including the last year reported. Revenue loss is assumed based on an average rate of \$1.00 per 1,000 gallons for years 2018 to 2020, and \$1.40 thereafter.

Table 9: Water and Revenue Losses

| Year | Water Produced (million gallons) | Metered Water Use (million gallons) | Water Loss (million gallons) | Revenue Loss (dollars) |
|-------------|---|--|---|-----------------------------------|
| 2023 | 2,421 | 2,399 | 22 | \$30,800 |
| 2022 | 2,374 | 2,242 | 132 | \$184,800 |
| 2021 | 2,564 | 2,310 | 254 | \$355,600 |
| 2020 | 2,730 | 2,619 | 111 | \$111,000 |
| 2019 | 2,435 | 2,166 | 269 | \$269,000 |
| 2018 | 2,526 | 2,388 | 138 | \$133,000 |

2. Water Loss Control Practices:

The following is a list of practices currently implemented by Cedar City to control water loss and revenue loss to minimize both.

- Repair known leaks – leaks are repaired by the Cedar City Water Division in a timely manner.
- Infrastructure maintenance – The Cedar City Water Division properly operates and maintains the water system in order to make sure that it is running as efficiently as possible.
- Water system audit – As part of its’ annual Water Report, Cedar City performs a water audit to determine the percentage of leakage and total water loss in the system.

C. Increasing Rate Structure

The following information is provided for Cedar City’s water system regarding its’ current inclining-block water rate structure. Cedar City has a water rate structure that encourages water conservation. The following table describes the status of the best practices in the City’s water system.

Table 10: Increasing Rate Structure

| Foundation Best Practices | Best Management Requirements | Is the Best Practice implemented in Cedar City’s water system? | Status of Best Practices |
|----------------------------------|--|---|--|
| Basic | Metered Rates | Yes | Cedar City has metered water rates established. |
| | Cost of Service Billing & User Charges | Yes | Cedar City’s water rates cover the cost of service. |
| | Understandable Water Bill | Yes | The water bill provides information concerning volume of water used and the applicable charges. |
| Intermediate | Water-Budget Based Billing | Yes | The residential rate is based on a water budget for an inclining block rate structure. The first tier allows for indoor use. The second tier allows for average outdoor use. The third and fourth tiers are for excessive outdoor use. |
| | Informative Water Bill | Yes | Information on water conservation is periodically included in the monthly newsletter that is sent out with the water bill. |
| | Educational Inserts | Yes | Educational information on water conservation is periodically included in the monthly newsletter that is sent out with the water bill. |
| Advanced | Advanced Pricing Methods | Yes | Conservation rates establish a specific tier for each customer based on the “usage units” for that account. |

1. Tiered Pricing Structure:

The following is current tiered pricing structure that has been adopted by the City Council for water customers.

Single-Family Residential (per thousand gallons):

1-month period base fee = \$17.00
0 – 8,000 gallons = \$1.00
8,001 – 20,000 gallons = \$2.18
20,001 – 35,000 gallons = \$4.21
Over 35,000 gallons = \$4.71

Multi-Family Residential (per thousand gallons):

1-month period base fee = \$17.00
0 – 5,000 gallons (per occupied dwelling unit) = \$1.00
5,001 – 10,000 gallons (per occupied dwelling unit) = \$2.18
10,001 – 15,000 gallons (per occupied dwelling unit) = \$4.21
Over 15,000 gallons (per occupied dwelling unit) = \$4.71

Non-Residential (per thousand gallons):

1-month period base fee = \$17.00
0 – 20,000 gallons = \$1.00
20,001 – 50,000 gallons = \$2.21
Over 50,000 gallons = \$3.14

Residential Conservation Rate (per thousand gallons):

1-month period base fee = \$17.00
0 – 8,000 gallons (per occupied dwelling unit) = \$1.00
8,001 – 12,000 gallons = \$2.93
12,001 – 20,000 gallons = \$6.08
over 20,000 gallons = \$6.58

Commercial, Industrial, & Multifamily Conservation Rate (per thousand gallons):

1-month period base fee = \$17.00
0 – 2,000 gallons (per usage unit) = \$1.00
2,001 – 3,000 gallons (per usage unit) = \$1.50
3,001 – 4,000 gallons (per usage unit) = \$12.73
over 4,000 gallons (per usage unit) = \$13.23

VI. WATER USE

A. Potable and Non-potable Water Deliveries

The following table lists the current total potable and non-potable water deliveries by volume for calendar year 2023.

Table 11: Potable and Non-potable Water Use Deliveries

| Year | Residential/ Domestic (acre-feet) | Commercial (acre-feet) | Industrial (acre-feet) | Institutional (acre-feet) |
|-------------|--|-----------------------------------|-----------------------------------|--------------------------------------|
| 2023 | 4,676.88 | 996.54 | 474.72 | 1,212.71 |

B. Per Capita Water Use

The following table lists the current per capita water use in gallons per capita per day (GPCD) by type and use for calendar year 2023.

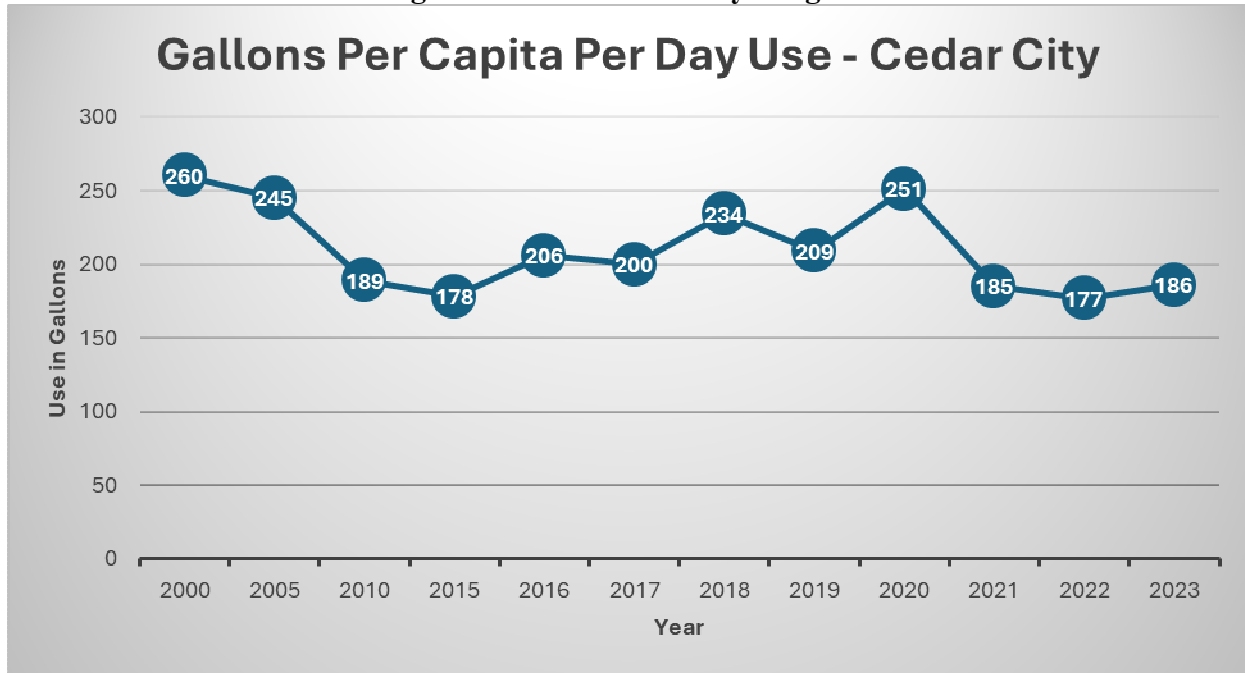
Table 12: Per Capita Water Use for 2023

| Type | Potable (Drinking Water) (gpcd) | Non-Potable (Secondary) (gpcd) | Total (gpcd) |
|---------------|--|---|-------------------------|
| Residential | 108 | 0 | 108 |
| Commercial | 23 | 0 | 23 |
| Institutional | 28 | 16 | 44 |
| Industrial | 11 | 0 | 11 |
| Total | 170 | 16 | 186 |

C. Water Efficiency Progress

The following figure shows the water efficiency progress for Cedar City since the year 2000.

Figure 3: Water Efficiency Progress



VII. CONSERVATION PRACTICES

A. Overall Water Conservation Goal for Cedar City

The overall conservation goal for Cedar City is as follows:

Cedar City’s water conservation goal is to achieve the sub-regional goal for Iron County of 193 gallons per capita per day (gpcd) of water usage by the year 2030.

The regional water conservation goal established by the Utah Department of Natural Resources is published at:

<https://utahdnr.maps.arcgis.com/apps/dashboards/1ee737fc5094b06a5c71ac3f1716055>

The Utah Division of Water Resources has set regional water conservation goals for regions throughout the State. Cedar City is located within the “Lower Colorado River North” region. The goal for the Lower Colorado River North region is to reduce per capita water use by 19% by the year 2030. The goal for per capita usage reduction is calculated by starting with the 2015 baseline usage for the region, which was 284 gpcd, and then achieving a 19% reduction by 2030 which would be 231 gpcd. As part of this water conservation plan, the following goal is hereby adopted: Cedar City’s water conservation goal is to achieve the sub-regional goal for Iron County of 193 gallons per capita per day (gpcd) of water usage by the year 2030.

The regional Lower Colorado River North goals in gallons per capita per day (gpcd) are as follows:

2015 Baseline = 284 gpcd
2030 Goal = 231 gpcd (19% reduction from 2015 baseline)
 2040 Goal Projection = 216 gpcd (24% reduction from 2015 baseline)
 2065 Goal Projection = 205 gpcd (28% reduction from 2015 baseline)

The specific regional goals for Iron County in gallons per capita per day (gpcd) are as follows:

2015 Baseline = 223 gpcd
2030 Goal = 193 gpcd (13% reduction from 2015 baseline)
 2040 Goal Projection = 182 gpcd (19% reduction from 2015 baseline)
 2065 Goal Projection = 173 gpcd (23% reduction from 2015 baseline)

B. Conservation Coordinator, Staff, and Committee

The following table lists information regarding the names and contact information of those within the City who are responsible for water conservation.

Table 13: Conservation Coordinator, Staff, and Committee

| Foundation Best Practices | Best Management Requirements | Is the Best Practice implemented in Cedar City's water system? | Names and Contact Information |
|----------------------------------|--|---|---|
| Basic | Staff assigned to Conservation Efforts | Yes | Cedar City Water Division Phone #435-586-2968 Cedar City Engineering Department Phone #435-586-2963 |
| | Conservation Advisory Committee | No | Cedar City does not currently have a Conservation Advisory Committee. (See Note below) |
| Intermediate | Conservation Coordinator sole responsibility | No | Cedar City does not currently have a designated Conservation Coordinator with sole responsibility. (See Note below) |
| Advanced | Conservation Coordinator with additional staff | No | Cedar City does not currently have a Conservation Coordinator with additional staff. (See Note below) |

NOTE: The CICWCD and the local USU Extension Office provide support and staffing for water conservation education and programs that are utilized by the residents of Cedar City.

C. Best Management Practices

The following water conservation best management practices were identified in the City’s 2009 Water System Master Plan and included in the City’s original water conservation plan. Refer to Appendix F for the water conservation information that was included in the City’s 2009 water master plan.

Table 14: Suggested or Possible Water Conservation Measures

| Item No. | Description of Water Conservation Measures |
|----------|--|
| 1 | Water Surveys for Single-family and Multi-family Residential Customers |
| 2 | Residential Plumbing Retrofit |
| 3 | System Water Audits, Leak Detection, and Repair |
| 4 | Landscape Ordinance for New Commercial Development |
| 5 | Large Landscape Conservation Programs and Incentives |
| 6 | High-efficiency Appliance Promotion Programs |
| 7 | Public Information Programs |
| 8 | School Education Programs |
| 9 | Conservation Programs for Commercial and Industrial Customers |
| 10 | Updated Water Rates |
| 11 | Water Conservation Coordinator |
| 12 | Water Waste Prohibition |
| 13 | Residential Ultra Low Flush Toilet Replacement |
| 14 | Non-residential Ultra Low Flush Toilet Replacement |

The Cedar City Water System Master Plan identifies these 14 items as the recommended Best Management Practices (BMPs) for water conservation. The following descriptions have been adapted to best meet the needs of the City and for ease of implementation. Some of these items have already begun to be implemented into the City’s water conservation program. As money and resources permit, the City could begin to implement other BMPs.

1. Water Survey Program for Residential Customers

Cedar City could offer an indoor and outdoor water survey to approximately 20 percent of existing single-family homes.

Specific activities for each indoor survey could include:

- Check for leaks at all toilets and faucets, and at the meter.
- Check flow rates of showerheads and faucets. Offer to replace with low flow models as appropriate.
- Check toilet flow rates and offer to install a displacement device. Replace leaking toilet flappers, as necessary.

Specific activities for each outdoor survey could include:

- Check irrigation system and timers.
- Measure the landscaped area.
- Review or develop customer irrigation schedule in minutes of watering time per week for spring, summer, and fall.
- Provide recommendations on the amount of water that should be used each month for irrigation.

Customers could be provided with an evaluation report and water conservation recommendations.

2. Residential Plumbing Retrofit

Cedar City could identify residential buildings constructed prior to 1992 in order to target buildings that do not have low flow plumbing devices. The City could then develop a strategy to distribute or directly install low-flow showerheads, toilet displacement devices (as needed), toilet flappers (as needed), and faucet aerators. This could be done through the distribution of retrofit kits that homeowners could install themselves or the City, with permission, could install the devices. The City could keep track of the number of retrofit devices installed and the program costs.

The State currently has a toilet rebate program that is available statewide. To qualify, homes must be built before January 1, 1994 and have a toilet that uses 1.6+ gpf. Up to \$100 can be rebated, with a maximum of two toilet rebates per home (potential of getting \$200 back). This is done through the website, “utahwatersavers.com”. The State is also funding smart controller rebates for 50% rebates up to \$150. These are items that can be included in the City’s monthly newsletter to inform customers of available rebate programs.

3. System Water Audits, Leak Detection, and Repair

Cedar City currently conducts an annual water audit to track unaccounted-for water (UAW) and leakage during the previous year. The results of each water audit are included in the City’s annual water report. A leak detection and repair program could help to reduce losses due to leakage and save revenue that is expended to pump and distribute this excess water.

4. Landscape Ordinance for Non-residential New Development

Cedar City could establish a landscape conservation ordinance to encourage water conservation in new developments. Principal features of the ordinance could include:

- Plants could be selected from a list of xeriscape plants.
- Landscape could be designed to use water within a budget that is based on a percentage (less than 100) of the water required by turf grass.

- The landscape design could be reviewed by the City building department and suggestions given for conserving water.
- New landscapes could include an appropriate and efficient irrigation system.
- Landscape/irrigation plans could include an irrigation schedule.

5. Large Landscape Conservation Programs and Incentives

Cedar City improved its secondary irrigation system by constructing the Lake at the Hills. This system currently provides irrigation water to the following customers: Cedar Ridge Golf Course, the Cedar City Cemetery, Bicentennial Park, Cedar City High School, Canyon View High School, Canyon View Middle School, and Southern Utah University. The City plans to encourage additional customers to connect to the pressurized irrigation system including: Cedar Middle School, North Elementary, South Elementary, Fiddlers Elementary, the Iron County Jail, Cedar City Hospital, and possibly other customers. The incentive for these large users to switch to the secondary system is that they will see a significant decrease in their water bill each month. In order to recognize the full benefit of the Lake at the Hills, the distribution system will need to be expanded to serve additional customers, and additional storage capacity will need to be added on the north end of the system.

6. High Efficiency Appliance Promotion Programs

Cedar City could encourage customers to purchase high-efficiency washing machines, low water use dishwashers, and point-of-use water heaters. Promotions could include: an in-store appliance labeling program, advertisements, or other activities. Where cost-effective, the City could offer rebates to customers who purchase high-efficiency appliances to help offset the purchase price.

7. Public Information and Awareness Campaign

The City has begun a public information campaign to inform the public about the City's water conservation ordinance and provide conservation tips. The water conservation ordinance states that no outside watering is allowed beginning on April 1 and ending on October 31 between the hours of 8:00 AM and 6:00 PM daily. A reminder about this ordinance is included in the City's monthly newsletter that is sent out with the water bill. A reminder can also be printed on the bill itself. Periodically, conservation tips are included in the monthly newsletter. In addition, water conservation leaflets and pamphlets are available at the City Offices. Cedar City also provides water conservation tips on the City website.

Additional items that could be done to promote public awareness of water conservation include the following:

- Poster contests.
- Radio and newspaper advertisements.
- Water Conservation Information posted on the Cedar City website.

- Printed educational material distributed with the water bill and available at other public facilities such as the City library.
- Providing water use information on customers' bills showing water use for the last billing period compared to the same period the year before.
- Coordinating with other government agencies.
- Presentations to school, civic, and religious groups.
- Programs promoted by the CICWCD.

In order for the City to formally establish a water conservation campaign, the following items could be performed:

- Develop a clean and persuasive statement of purpose.
- Choose an appropriate theme.
- Identify key target groups.
- Select members for a water conservation committee.
- Identify communication paths, resource materials, and volunteers.
- Design and implement specific campaigns.
- Ensure effective coordination and follow-through to make sure that the conservation campaigns are implemented.

Implementation Goal: Cedar City's implementation goal for the next five years will be as follows:

- Cedar City will continue to include reminders regarding water conservation in the monthly newsletter that is sent out each month with the City's utility bill. Specifically, reminders will be given regarding the restrictions on daytime watering.

Implementation Timeline: Cedar City will implement this goal based on the following timeline:

- Newsletter every month during the irrigation season – Provide a reminder about daytime water restrictions. Provide information regarding water conservation websites such as “www.conservewater.utah.gov” and “www.slowtheflow.org”.

Implementation Tracking: Cedar City will track this goal as follows:

- Annual checking to determine if this goal has been completed and then reporting to the Division of Water Resources.
- Cedar City tracks and reports important system information annually as required by the Utah Division of Water Rights. Annual reporting of the City's water use and other required information will be provided by March 31st of each year to the Division of Water Rights.
- Cedar City will report the per capita water usage each year in the City's annual Water Report.

8. School Education Programs

Long-term results to eliminate wasteful water-use habits are best achieved by educating young people. By teaching children to respect the value of water, they will grow up into responsible adults. In addition, children may pass information on to their parents who can then implement the suggestions on their own property.

New school programs could be organized as follows:

- Obtain approval for the education program from the school superintendent.
- Obtain relevant teaching materials and establish a curriculum that can be used by teachers in the local school district.
- Coordinate teacher training.
- Estimate the number of participants, including teachers, in the water conservation education program.
- Distribute curriculum materials to teachers.
- Monitor and follow the success of the program, making adjustments as necessary to maximize student learning.

The CICWCD currently does a school education program for 4th grade students from schools located in Cedar City.

9. Conservation Program for Commercial, Industrial, and Institutional Customers

Cedar City could develop a program targeted at the high water users in these classes. The program could consist of the following:

- Identify these customers by type and rank according to use.
- Offer water use surveys and customer incentives to at least the top 10% of users.
- Implement programs to reduce water use by 10%.

Water use surveys could consist of a site visit, an evaluation of existing water using appliances and processes, and a customer report identifying recommended efficiency measures, their expected payback, and available incentives. Cedar City could provide periodic follow-up and track water savings achieved.

10. Non-promotional Water Pricing Programs

Cedar City has an inclining block water rate structure. This rate structure was developed to encourage customers to reduce their water usage, especially on outside watering. The current rate structure for single-family residential customers was presented in Section V of this report. The water rate structure should be reviewed periodically to ensure that revenues cover the necessary expenditures and to make sure that the rates are providing an incentive for conservation.

Implementation Goal: Cedar City’s implementation goal for the next five years will be as follows:

- If approved by the City Council, Cedar City will perform a water rate study within the next five years to review the City’s water rates.
- Anticipated outcomes could be as follows (specific outcomes will need to be reviewed and approved by the City Council):

Review the inclining block rate structure for residential and commercial customers. Determine whether additional water conservation could be achieved by adjusting the rate blocks or adjusting the pricing.

Implementation Timeline: Cedar City will implement this goal based on the following timeline:

- The most recent comprehensive water rate study was completed in 2012. Based on an approximate 10-year interval for completing a comprehensive rate study, it is anticipated that the next rate study would be performed in fiscal 2025-26 (subject to approval by the City Council).

Implementation Tracking: Cedar City will track this goal as follows:

- Annual checking to determine if this goal has been completed and then reporting to the Division of Water Resources.
- Cedar City tracks and reports important system information annually as required by the Utah Division of Water Rights. Annual reporting of the City’s water use and other required information will be provided by March 31st of each year to the Division of Water Rights.
- Cedar City will report the per capita water usage each year in the City’s annual Water Report.

11. Water Conservation Coordinator

Several larger cities in Utah have hired a full-time water conservation coordinator. However, due to Cedar City’s smaller size this is probably not practical. A more appropriate approach could be to assign one person already on staff to be responsible for the City’s water conservation activities. The duties of this person could be as follows:

- Coordination and oversight of conservation programs and BMP implementation.
- Liaison with the public and media.
- Preparation of progress reports.

- Communication and promotion of water conservation issues with other departments and preparation of budgets.
- Preparation of water conservation plan updates.

12. Water Waste Prohibition

Cedar City has enacted an ordinance that prohibits outside watering between the hours of 8:00 AM and 6:00 PM between April 1 and October 31. The reason behind this ordinance is that much of the water applied during these daytime hours is lost due to evaporation. During the past year this ordinance has been more aggressively enforced by the City Water Division. This ordinance has helped to reduce consumption during the heat of the day and aided in reducing the wasteful use of water.

Cedar City could enact and enforce other measures prohibiting single-pass cooling systems in new connections, non-recirculating systems in a new conveyor car wash and commercial laundry systems. Cedar City could also encourage replacement of inefficient home water softeners.

Implementation Goal: Cedar City’s implementation goal for the next five years will be as follows:

- Cedar City will increase public awareness about the City’s water waste ordinance.
- Cedar City will continue to proactively enforce this ordinance.

Implementation Timeline: Cedar City will implement this goal based on the following timeline:

- Newsletter every month during the irrigation season – Provide a reminder about daytime water restrictions in the City’s monthly newsletter.

Implementation Tracking: Cedar City will track this goal as follows:

- Annual checking to determine if this goal has been completed and then reporting to the Division of Water Resources.
- Cedar City tracks and reports important system information annually as required by the Utah Division of Water Rights. Annual reporting of the City’s water use and other required information will be provided by March 31st of each year to the Division of Water Rights.
- Cedar City will report the per capita water usage each year in the City’s annual Water Report.

13. Residential ULF Toilet Replacement Programs

Cedar City could implement a toilet replacement program offering incentives to existing residential customers who replace their high water-use toilets with ultra low-flush (ULF) toilets. ULF toilets reduce toilet-flushing water to about 1.6 gallons per flush (gpf). This is a significant savings from an average 5-7 gpf for regular toilets, and from 3.5 gpf for low-water-use toilets.

14. Non-Residential ULF Toilet Replacement Programs

Cedar City could implement a toilet replacement program offering incentives to existing non-residential customers who replace their high water-use toilets with ultra low-flush (ULF) toilets. ULF toilets reduce toilet-flushing water to about 1.6 gallons per flush (gpf). This is a significant savings from an average 5-7 gpf for regular toilets, and from 3.5 gpf for low-water-use toilets.

D. Implementation Plans

The following are specific tasks that could be done to implement some of the water conservation best management practices.

In order to implement the best management practices, appropriate tasks must be determined, responsibility fixed with the appropriate personnel or department, and a time frame set for completion of each task.

BMP: Continue to add customers to the City's secondary irrigation system, maximize the use of the 200 North Pump Station, and work towards implementing effluent reuse from the City's wastewater treatment plant.

1. Currently there are several customers who use secondary water for irrigation purposes; they are the Golf Course, the Cemetery, the Fields at the Hills, Cedar High School, Bicentennial Park, Canyon View High School, Canyon View Middle School, and Southern Utah University.
2. The master plan includes the expansion of the secondary irrigation system to serve other customers such as Cedar Middle School, North Elementary, South Elementary, Fiddlers Elementary, the Iron County Jail, Cedar City Hospital, and other large irrigation users. Cedar City is also working on the construction of two new parks that could be added to the secondary irrigation system, which include: Fiddlers Canyon Park and Iron West Sports Complex.
3. The 200 North Pump Station could be better utilized during the summer months to pump irrigation water up to the Lake at the Hills. The water that flows to the 200 North Pump Station is the tailwater that comes off the City's ditch system.

Any water that flows past the pump station is being wasted because it just flows down to Quichapa Lake where it sits and evaporates.

4. Cedar City is currently working on a project to treat the wastewater effluent at the City's wastewater treatment plant to Type 1 quality. It is anticipated that the treated effluent will be pumped back to Cedar City and utilized in the City's secondary irrigation system. This will allow the effluent to be put to beneficial use and provide an additional source for the secondary irrigation system. This will allow additional customers to connect to that system.

BMP: Begin an annual leak detection and repair program.

1. The City Water Division will continue to maintain the water distribution system by fixing leaks promptly.
2. Sections of pipe that are known to break frequently should be replaced. Currently, the City has an on-going pipe replacement program to replace old, undersized water lines each year. It is recommended that this program be accelerated to replace more than one section of pipe each year.
3. Keep records regarding all water leaks repaired by the City.

E. Implementation Tracking

Cedar City will track the implementation plans as follows:

- Annual checking to determine if this goal has been completed and then reporting to the Division of Water Resources.
- Cedar City tracks and reports important system information annually as required by the Utah Division of Water Rights. Annual reporting of the City's water use and other required information will be provided by March 31st of each year to the Division of Water Rights.
- Cedar City will report the per capita water usage each year in the City's annual Water Report.

F. Conservation Public Awareness, Education, and Rebates

The following table describes the status of the conservation public information, education/training programs, and rebates/incentives/rewards that have been implemented by Cedar City.

Table 15: Public Information and Education Programs

| Foundation Best Practices | Best Management Requirements | Is the Best Practice implemented in Cedar City’s water system? | Names and Contact Information |
|----------------------------------|-------------------------------------|---|--|
| Basic | Information Available | Yes | Cedar City provides water conservation information periodically in the City’s monthly newsletter that is sent out with the utility bill. Some water conservation information is also provided on the City website. Other websites, such as “slowtheflow.org” are available to find information about water conservation. |
| | School Program | Yes (provided by other local agencies) | Cedar City does not currently operate a school education program. However, the Central Iron County Water Conservancy District (CICWCD) hosts an annual 4 th Grade Water Fair for schools in Iron County, which includes schools located in Cedar City. |
| Intermediate | Public Education Program | Yes | Cedar City provides educational information periodically in the City’s monthly newsletter that is sent out with the utility bill. |
| | Landscape Efficiency | Yes (provided by other local agencies) | Cedar City does not provide landscape efficiency audits. However, the CICWCD and USU Extension Office have partnered to provide landscape audits to residents living in the City and surrounding areas. |
| | Booths | Yes (provided by other local agencies) | Cedar City does not currently run booths at public events. However, the CICWCD organizes a water conservation fair at the Main Street Park in Cedar City each year with booths and information for the public. |
| Advanced | Workshops, Classes, Events | Yes (provided by other local agencies) | Cedar City does not currently run any classes, workshops, or events. However, the CICWCD and USU Extension Office do provide water conservation educational opportunities. |
| | Audits | Yes | The Cedar City Water Division will assist customers, as needed, when problems or leaks are identified on the customer’s side of the meter. |
| | Rebates/ Incentives/ Rewards | Yes | Cedar City has adopted ordinances that allow its residents to participate in the state’s turf buyback program. |

G. Conservation Ordinances and Standards/City Codes

The following water conservation ordinances and standards are currently implemented by Cedar City.

1. Water Waste Prohibition:

Cedar City has enacted an ordinance (Section 37-7-1) that prohibits outside watering between the hours of 8:00 AM and 6:00 PM from April 1 to October 31. The reasoning behind this ordinance is that much of the water applied during these daytime hours is lost due to evaporation. This ordinance is actively enforced by the Cedar City Water Division. This ordinance has helped to reduce consumption during the heat of the day and aided in reducing the wasteful use of water.

A copy of the “Time-of-Day Watering Parameters” ordinance is included in Appendix G.

2. Water Shortage Plan:

Cedar City has enacted an ordinance (Section 37-14) regarding times of water shortage within the City’s service area.

A copy of the “Scarcity of Water” ordinance is included in Appendix G.

3. City Codes:

All new buildings constructed within Cedar City must comply with the current adopted versions of the International Building Code, International Residential Code, International Plumbing Code, and other codes as applicable.

VIII. CONCLUSION

This water conservation plan is adopted by the City Council by resolution. The Mayor of Cedar City is Garth O. Green. The City Council of Cedar City is comprised of the following members:

- a. Robert Cox
- b. W. Tyler Melling
- c. R. Scott Phillips
- d. Ronald Riddle
- e. Carter Wilkey

This water conservation plan will be revised and updated as required to meet changing conditions and needs. The plan will also be updated and submitted to the Utah Division of Water

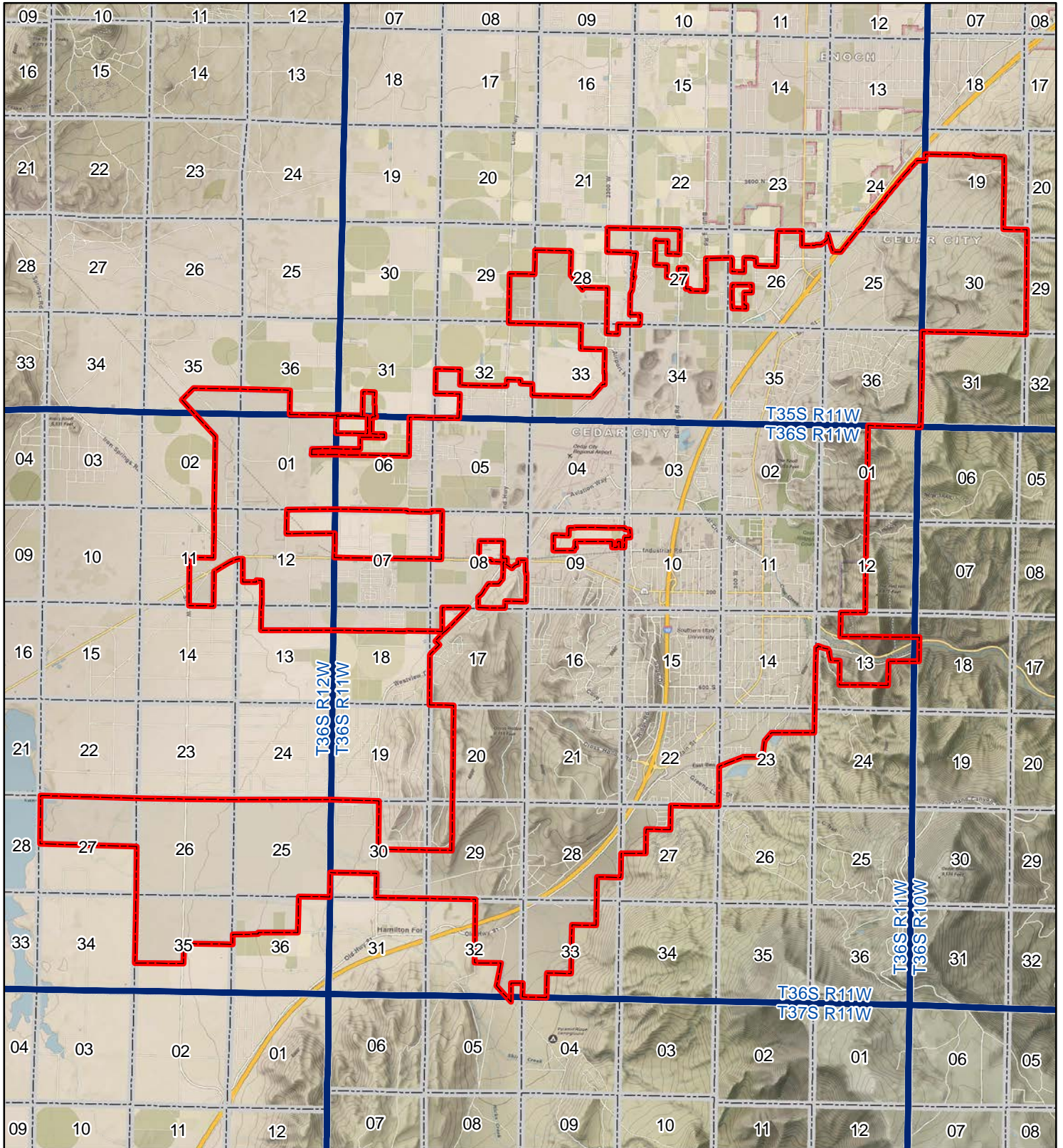
Resources no less frequently than every five (5) years, as required by Utah Code 73-10-32. The City Council resolution for the water conservation plan is included in Appendix C.

APPENDIX A




CEDAR CITY CURRENT SERVICE AREA MAP

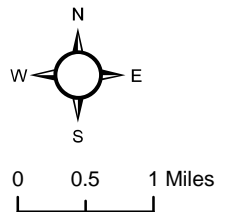
Figure 1 - Cedar City Current Water Service Area

Map Created November 20, 2024



Legend

-  Cedar City Limits
-  Township Line
-  Section Line



A north arrow pointing up, with 'N' at the top, 'S' at the bottom, 'E' on the right, and 'W' on the left. Below the arrow is a scale bar with markings for 0, 0.5, and 1 mile.

APPENDIX B

COPY OF PUBLIC NOTIFICATION

Support

PUBLIC NOTICE WEBSITE
DIVISION OF ARCHIVES AND RECORDS SERVICE

NOTICE OF PUBLIC HEARING

General Information

Government Type:

Municipality

Entity:

Cedar City

Entity Website:

www.cedarcity.org

Public Body:

City Council

Give Feedba

Notice Information

[Add Notice to Calendar](#)

Notice Title:

NOTICE OF PUBLIC HEARING

Notice Subject(s):

Water and Irrigation

Notice Type(s):

Hearing

Event Start Date & Time:

December 4, 2024 05:30 PM

Description/Agenda:

Notice is hereby given that the Cedar City Council will hold a Public Hearing during its December 4, 2024, City Council Work Meeting to consider a resolution to approve and adopt the Cedar City Water Conservation Plan. The City Council meeting will begin at 5:30 p.m. and be held in the City Council Chambers located at 10 North Main Street, Cedar City, Utah. The public is encouraged to attend.

Notice of Special Accommodations (ADA):

Cedar City Corporation does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services. If you are planning to attend this public meeting and, due to a disability, need assistance in accessing, understanding or participating in the meeting, please notify the City not later than the day before the meeting and we will try to provide whatever assistance may be required.

Notice of Electronic or Telephone Participation:

NA

Give Feedback

Meeting Information

Meeting Location:

10 North Main
Cedar City, UT 84720

[Show in Apple Maps](#)

[Show in Google Maps](#)

Contact Name:

Renon Savage

Contact Email:

srenon@cedarcity.org

Contact Phone:

(435)586-2950

Notice Posting Details

Notice Posted On:

November 14, 2024 08:16 AM

Notice Last Edited On:

November 14, 2024 08:16 AM

Audio File Address

Audio File Location:

<https://www.youtube.com/@cedarcityutah-citycouncil9928/streams>

Give Feedba

Subscribe

Subscribe by Email

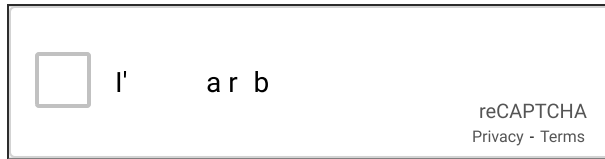
Subscription options will send you alerts regarding future notices posted by this Body.

Your Name:

John Smith

Your Email:

username@example.com



[UTAH.GO HOME](#)

[UTAH.GO TERMS OF USE](#)

[UTAH.GO PRIVACY POLICY](#)

[TRANSLATE UTAH.GO](#)

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[Give Feedback](#)

APPENDIX C

**CITY COUNCIL RESOLUTION AND
ADOPTION SIGNATURES**

CEDAR CITY CORPORATION

RESOLUTION NO. 24-1211

**A RESOLUTION TO APPROVE AND ADOPT THE CEDAR CITY WATER
CONSERVATION PLAN**

WHEREAS, Cedar City Corporation operates a culinary water system; and

WHEREAS, the City Council understands the pressing need to use water in a more efficient manner to allow for future sustained growth of the community; and

WHEREAS, the State of Utah has set regional water conservation goals for regions throughout the State; and

WHEREAS, Cedar City is located within the Lower Colorado River North region which has a goal of a 19% reduction in per capita water use by 2030.

NOW THEREFORE, BE IT RESOLVED by the Cedar City Council, County of Iron, State of Utah:

The water conservation plan of Cedar City, originally submitted to the Utah Division of Water Resources in July 1999, and revised on this 11th day of December 2024, is hereby approved and adopted. As part of the water conservation plan, the following water conservation goal is hereby adopted: Cedar City's water conservation goal is to achieve the sub-regional goal for Iron County of 193 gallons per capita per day (gpcd) of water usage by the year 2030. Said water conservation plan is attached hereto and incorporated herein as Exhibit "A". The water conservation plan will be amended no less than every five years and will continue to play a vital role in the future development of Cedar City, Utah.

This resolution is considered with full knowledge of any and all disclosures as required by the laws of the State of Utah concerning any actual or potential conflicts of interest.

This resolution, assigned No. 24-1211 shall take effect on the 11th day of December, 2024.

This resolution was made, voted and passed by the Cedar City Council at its regular meeting on the 11th day of December 2024, by the following vote of its members:

AYES: 5

NAYS: 0

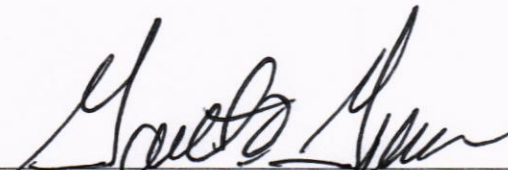
ABSTAINED: 0

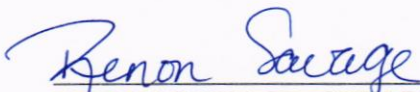
DATED this 18 day of December, 2024.



[Corporate Seal]

ATTEST:


GARTH O. GREEN, MAYOR


RENON SAVAGE, CITY RECORDER

APPENDIX D

CITY COUNCIL MEETING MINUTES



Cedar City

10 North Main Street • Cedar City, UT 84720
435-586-2950 • FAX 435-586-4362
www.cedarcity.org

Mayor
Garth O. Green

Council Members
Robert Cox
W. Tyler Melling
R. Scott Phillips
Ronald Riddle
Carter Wilkey

City Manager
Paul Bittmenn

AMENDED CITY COUNCIL WORK MEETING
DECEMBER 4, 2023

IMMEDIATELY FOLLOWING THE ACTION MEETING

The City Council meeting will be held in the Council Chambers at the City Office, 10 North Main Street. The agenda will consist of the following items:

I. Business Agenda
Public

1. Consider a resolution providing for the creation of the Courtyards at Shurtz Canyon Public Infrastructure District as an Independent Body Corporate and Politic; Authorizing and Approving a Governing Document and an Interlocal Agreement, and Related Matters. Choice Lifestyles / Randall McUne
2. Consider a resolution providing for the creation of the Trails at Shurtz Canyon Public Infrastructure District as an Independent Body Corporate and Politic; Authorizing and Approving a Governing Document and an Interlocal Agreement, and Related Matters. Shurtz Canyon OZ / Randall McUne

Staff

3. Public Hearing to consider a resolution for the adoption of the Cedar City Water Conservation Plan. Lisa Benson/Jonathan Stathis
4. Consider bids for the North Watershed Test Wells project. Shane Johnson/Jonathan Stathis
5. Consider AIP 049 – Terminal FAA Change Order #5. Tyler Galetka
6. Consider AIP 049 – Terminal FAA Change Order #6. Tyler Galetka
7. Consider awarding a bid and contract for Runway 8/26 Pavement Preservation to Straight Stripe Painting. Tyler Galetka
8. Closed Session – Reasonably Imminent Litigation & Property Negotiations

Dated this 3rd day of December, 2024.



Renon Savage, MMC
Cedar City Recorder

CERTIFICATE OF DELIVERY:

The undersigned duly appointed and acting recorder for the municipality of Cedar City, Utah, hereby certifies that a copy of the foregoing Notice of Agenda was delivered to the Daily News, and each member of the governing body this 3rd day of December, 2024.



Renon Savage, MMC
Cedar City Recorder

Cedar City Corporation does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.

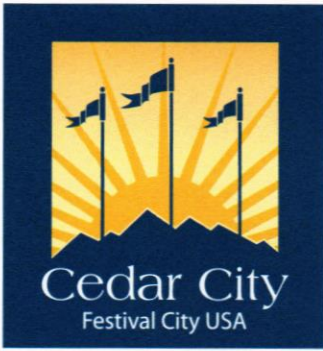
If you are planning to attend this public meeting and, due to a disability, need assistance in accessing, understanding or participating in the meeting, please notify the City not later than the day before the meeting and we will try to provide whatever assistance may be required.

is an IRS issue, if the costs qualify as eligible public infrastructure costs. **Randall** – it can exist, but if it doesn't qualify, they don't get the tax break. **Melling** - in July or August we did a vesting extension for phase 1, are we good on the timelines. **Roger** – we will expire in May, so all three phases should record after bond issuance. All three phases and the commercial property are included. Action.

CONSIDER A RESOLUTION PROVIDING FOR THE CREATION OF THE TRAILS AT SHURTZ CANYON PUBLIC INFRASTRUCTURE DISTRICT AS AN INDEPENDENT BODY CORPORATE AND POLITICAL; AUTHORIZING AND APPROVING A GOVERNING DOCUMENT AND AN INTERLOCAL AGREEMENT, AND RELATED MATTERS. SHURTZ CANYON OZ / RANDALL MCUNE: **Nick Ripandelli**, Shurtz Canyon OZ & **Matt Ence**, Snow Jensen and Reece. **Wilkey** – you have houses built. **Matt** – this will also be both, the property owners have signed the petition, but they will be excluded from the special assessment. Action.

PUBLIC HEARING TO CONSIDER A RESOLUTION FOR THE ADOPTION OF THE CEDAR CITY WATER CONSERVATION PLAN. LISA BENSON/JONATHAN STATHIS: **Jonathan Stathis**, Senior Engineer – the city does this every 5 years, it is a State requirement, and we need to do it in order to qualify for state funding. See Exhibit “A”. **Melling** – county wide, we are the third most efficient in the State. **Jonathan** – the growth rate has been about 4% a year since 2020, from now until 2060 it is projected to be 1.3%. **Melling** – my understanding is that is because of the reduced birth rate. **Wilkey** – I had a friend in Taylorsville-Bennion, they have something that sends you an email if your meter doesn't stop spinning over several days and asks them to fix it. **Mayor** – it has to go to the towers; we are working on that. It will collect information every 15 minutes and I think it will have that capability, but we don't have that yet. I would like to get a receiver on one of the towers and see how it works. **Phillips** – I think we have the wrong time on the time-of-day watering, it is much cooler at 8 a.m. than 6 p.m. we should change it to 9 a.m. and 7 p.m. **Paul** – there is nothing magic on times, it was little ladies getting up at 4:30 a.m. to water their grass. We can look at those hours. **Melling** – I don't have a problem until 10 a.m., a lot of people have sprinkler systems, I think 6 pm is still ok. **Paul** – 8pm is different in April than July. **Melling** - public awareness, people know it is better to water when it is cool; the true enforcement is at the meter. I think we could relax the hours. I think a 5% reduction under the regional goal wouldn't be a bad thing. More than 30% of our water is waste by overwatering. **Mayor** – we only have 3,500-acre feet from the WWTP in the summer. In 2035 we should make a huge dent by using wastewater in watering grass. **Phillips** - what do we gain, we don't get a reward. **Melling** – it's a do better, especially since we are asking the State for money. Over the next 30 years we will see a 30% reduction per capita because of financial reasons. **Phillips** - what happens if we don't meet our goal? **Jonathan** – there is not a penalty. **Melling** – when we are asking the State for money, I don't think we should set a goal at or above the state goal. **Melling** - 193 is 1% conservation a year.

Mayor Green opened the public hearing. **Burt Poulson** – sometimes schools are watering at different times. **Paul** – the ordinance distinguishes between the Lake at the Hills and large facilities, they are not included in the time of day because of the storage capacity, we cannot water them all overnight. **Phillips** – that is gray water. **Mayor** – we will do a lot more of that. The hearing closed.



Cedar City

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www.cedarcity.org

Mayor
Garth O. Green

Council Members
Robert Cox
W. Tyler Melling
R. Scott Phillips
Ronald Riddle
Carter Wilkey

City Manager
Paul Bittmenn

CITY COUNCIL MEETING
DECEMBER 11, 2024
5:30 P.M.

The City Council meeting will be held in the Council Chambers at the City Office, 10 North Main Street, Cedar City, Utah. The City Council Chambers may be an anchor location for participation by electronic means. The agenda will consist of the following items:

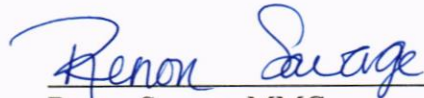
- I. Call to Order
- II. Agenda Order Approval
- III. Administration Agenda
 - Mayor and Council Business
 - Swear in Youth City Council
 - Staff Comment
 - Introduction of Fire Department Volunteers
- IV. Business Agenda
 - Public Comments
 - Historic Downtown District Presentation – SUU Capstone Project. Jacee, Kelton, Reagan, Shawn, Hayden
- V. Public Consent Agenda
 1. Approval of minutes dated November 20 & December 4 (action), 2024
 2. Approve bills dated December 6, 2024
 3. Approve AIP 049 – Terminal FAA Change Order #5. Tyler Galetka
 4. Approve awarding a bid and contract for Runway 8/26 Pavement Preservation to Straight Stripe Painting. Tyler Galetka

Action – need a motion from a council member to either approve or deny each of the following items:

5. Consider a resolution for the adoption of the Cedar City Water Conservation Plan. Lisa Benson/Jonathan Stathis
6. Consider AIP 049 – Terminal FAA Change Order #6. Tyler Galetka
7. Consider bids for the North Watershed Test Wells project. Shane Johnson/Jonathan Stathis
8. Public hearing to consider a resolution providing for the creation of the Courtyards at Shurtz Canyon Public Infrastructure District as an Independent Body Corporate and

- Politic; Authorizing and Approving a Governing Document and an Interlocal Agreement, and Related Matters. Choice Lifestyles / Randall McUne
9. Public hearing to consider a resolution providing for the creation of the Trails at Shurtz Canyon Public Infrastructure District as an Independent Body Corporate and Politic; Authorizing and Approving a Governing Document and an Interlocal Agreement, and Related Matters. Shurtz Canyon OZ / Randall McUne
 10. Consider approving additional donation of land for the Iron West Sports Complex area. Dallas Buckner/Randall McUne
 11. Closed Session – property negotiations

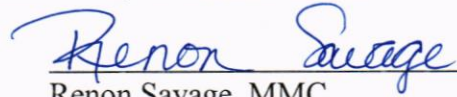
Dated this 9th day of December 2024.



Renon Savage, MMC
City Recorder

CERTIFICATE OF DELIVERY:

The undersigned duly appointed and acting recorder for the municipality of Cedar City, Utah, hereby certifies that a copy of the foregoing Notice of Agenda was delivered to the Daily News, and each member of the governing body this 9th day of December 2024.



Renon Savage, MMC
City Recorder

Cedar City Corporation does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.

If you are planning to attend this public meeting and due to a disability, need assistance in accessing, understanding or participating in the meeting, please notify the City not later than the day before the meeting and we will try to provide whatever assistance may be required.

COUNCIL MINUTES
DECEMBER 11, 2024

The City Council held a meeting on Wednesday, December 11, 2024, at 6:40 p.m. in the City Council Chambers, 10 North Main Street, Cedar City, Utah.

MEMBERS PRESENT: Mayor Garth O. Green; Councilmembers: Robert Cox; W. Tyler Melling; R. Scott Phillips; Ronald Riddle; Carter Wilkey.

STAFF PRESENT: City Manager Paul Bittmenn; City Attorney Randall McUne; City Recorder Renon Savage; Finance Director Jason Norris; City Engineer Kent Fugal; Police Chief Darin Adams; Fire Chief Mike Phillips; Public Works Director Ryan Marshall; Senior Engineer Jonathan Stathis.

OTHERS PRESENT: Matt Ence

CONSENT AGENDA: (1) APPROVAL OF MINUTES DATED NOVEMBER 20 & DECEMBER 4 (ACTION), 2024; (2) APPROVE BILLS DATED DECEMBER 6, 2024; (3) APPROVE AIP 049 – TERMINAL FAA CHANGE ORDER #5. TYLER GALETKA; (4) APPROVE AWARDDING A BID AND CONTRACT FOR RUNWAY 8/26 PAVEMENT PRESERVATION TO STRAIGHT STRIPE PAINTING. TYLER GALETKA; Councilmember Melling moved to approve the consent agenda items 1 through 4 as written above; second by Councilmember Cox; vote AYE – 4; ABSTAINED – 1 Riddle.

CONSIDER A RESOLUTION FOR THE ADOPTION OF THE CEDAR CITY WATER CONSERVATION PLAN. LISA BENSON/JONATHAN STATHIS:

Jonathan – We are currently using 202 on the 5-year average. **Melling** – option 3 would be 1% a year. **Phillips** – I want to achieve our goal. **Melling** – if we have half the growth, we have had in the past 5 years, we would be closer to 185. The new connections are not using very much water. **Wilkey** – we don't have an incentive to hit a goal or not. **Jonathan** – correct. It might help us on funding. In the last 5 years, in 2020 you used 2051 it was out of normal.

Councilmember Melling moved to adopt Option 3 (193 gpcd by 2030) with the resolution adopting the Cedar City Water Conservation Plan; second by Councilmember Cox; vote as follows:

AYE: 5
NAY: 0
ABSTAINED: 0

CONSIDER AIP 049 – TERMINAL FAA CHANGE ORDER #6. TYLER GALETKA:

Tyler Galetka, Airport Manager – our final numbers was about \$14,000, now it is \$5,407. The sub-contractor sent the proposed cost and said it was not included in the plans, we found that all data was included, but there was power not included and some additional data.

Phillips – we still have the 5% match. **Tyler** - correct.

Councilmember Phillips moved to approve change order #6 in the amount of \$5,407 for the AIP 049; second by Councilmember Melling; vote unanimous.

APPENDIX E

NOTIFICATION PROCEDURES

APPENDIX E

NOTIFICATION PROCEDURES

As required by Utah Code 73-10-32, this water conservation plan will be disseminated to the public through the following means.

1. Cedar City will devote part of at least one regular City Council meeting every five (5) years to a discussion and formal adoption of the water conservation plan, and allow public comment on it.
2. After its adoption by the City Council, the water conservation plan will be posted on the Cedar City website.

APPENDIX F

**WATER CONSERVATION PLAN FROM THE
CEDAR CITY 2009 WATER MASTER PLAN**

- Unintended emissions; water effluent; household; water users to...;
- Unintended emissions; water effluent; water users to...;

From the provisions of 73-10-32; the previous water conservation recommendations. However, there are several requirements supported and not followed; the need to be addressed. The Code so requires; the need to be updated; in many municipalities; Water conservation; water conservation; (water conservation; not followed; the City's not engaged to review the funds for water development.

PROFILE OF CURRENT WATER CONSUMPTION

Table 3-1 provides a profile of indoor and outdoor water use; some un-metered water (UMW), is required by the City's billing system. The current profile is somewhat different than what was reported in the previous meter program. While the volume of outdoor use over the past 10 years is relatively stable, outdoor use doubled; UMW; utility decreased.

Table 3-1 Updated Water Use Profile

| Category | 2007 Total Use (gal) | 2007 Percentage Total | 1977 Total Use (gal) | 1977 Percentage Total |
|--------------|----------------------|-----------------------|----------------------|-----------------------|
| Indoor Use | 8,568,666 | 36% | 7,788,666 | 48% |
| Outdoor use | 8,866,866 | 54% | 5,365,866 | 34% |
| Total Billed | 17,435,532 | | 13,154,532 | |
| Un-Metered | 3,677,434 | 10% | 774,344 | 8% |
| Reduction | 3,866,666 | | 6,543,366 | |

Obviously, outdoor water use makes up the largest portion of the City's water use and is responsible for the utility water system's revenue in the summer. Peak summer water use may be more than six times winter use.

The previous profile is so divided into indoor and outdoor use between residential and non-residential use categories. This information was not available for this study. However, it is recommended that a detailed study be performed by the City to examine these trends since water conservation is a category should be targeted for conservation measures; otherwise.

Growth
 It is expected that the City's water consumption will continue to grow. Since water consumption of the previous program, population has increased from 18,398 to 26,480 (2007), or about 3.7 percent annually. As presented in Section 2, the expected population in 2032 is 69,663, which is a 19.2 percent increase from 2007. This represents a 25 year growth of 163 percent over the current

(2007) numbers. Therefore, water conservation programs should be designed for the existing and future customers.

Summary of Where to Place Conservation Effort:

From the perspective of deferring proposed water capital improvement projects, the reduction of summer peak-day water use would be effective. Prime targets to reduce peak-day use are the exterior uses – single families and public agencies. Improved efficiency at local government-owned sites would target concentrations of turf (parks and playing fields) and set a good example and establish credibility with the general public. *The recommended conservation measures of the previous program; used on these programs; and they continue to be the focus of the update.*

GENERAL BENEFITS FROM SAVING WATER

Quantifiable benefits to Cedar City from reducing water demand include:

- **Reduction in operation and maintenance (O&M) expenses** resulting from lower pumping energy
- **Deferral or downsizing of capital facilities** – limiting the rate of increase in demand can postpone facility construction and, in cases where growth is slowing, avoid the next water supply treatment increment. The types of water utility capital facilities most likely affected include water storage reservoirs, raw-water transmission facilities, new wells; development, finished water storage, and booster pumping stations. Fewer or smaller facilities also reduce staffing costs.

In addition, wastewater utilities can benefit from reduced indoor water use which translates into reduced wastewater flows. While this reduces O&M costs of existing facilities, wastewater capital facilities are less affected because most are designed for peak wet weather flow, which is not significantly affected by reduced average dry weather flows.

A balanced perspective should also consider the reduction in water revenues. Conservation programs can suppress water sales, limiting revenues. If the reduction occurs slowly, a less than 1 percent per year (as has been the case over the past 10 years; note the program formula), then the revenue loss impacts can be mitigated by periodic rate adjustments. These adjustments would be handled similar to operating cost increases due to inflation and can be integrated into financial planning.

REVIEW PROGRAMS

The previous programs consisted of three programs:

1. *Water Audit and Leak Detection*
2. *Public Information*
3. *Non-Promotional Programs*

The previous water conservation programs were developed by various groups; the water savings are imputed to multiple unit water savings, per measure, in a market

penetration rate, and then multiplying the number of units in a particular service area, such as dwelling units targeted by a particular program. Cost-effectiveness was evaluated by first estimating costs and then computing the cost after saved. The evaluation was done using the expected population growth.

The cost-effectiveness was evaluated in terms of the cost after saved, in dollars per 1000 gallons. This was computed by dividing the present worth of the initial and/or annual costs by the total water saved over the next 25 years. Table 3-2 shows the results of the previous analysis. Measures that were selected for the plan are indicated by an “x” in the last column. The residential retrofit and *ultraviolet* (ULF) toilet replacement measures were not selected because they overlap with the conservation due to the natural replacement of fixtures. The other measures were selected either for their water savings or for their high cost.

Table 3-2 Cost-Effectiveness of Measures

| Measure | Total Water Saved (mil gal/yr) | Unit Cost of Water Saved (\$/1000 gal/yr) | Recommended For PRN |
|--|--------------------------------|---|---------------------|
| Residential Water Surveys | 80 | 0.60 | |
| Residential Retrofit | | 0.44 | |
| System Water Audits, Leak Detection and Repair | 8 | 0 | XR |
| Non-Residential Landscape Ordinance | | 0.28 | |
| Large Landscape Conservation and Incentives | 2 | .47 | |
| High-Efficiency Appliance Promotion | 6 | 0 | |
| Public Information | 772 | 0.22 | XR |
| Com/Ind/Inst Conservation | 4 | .70 | |
| Non-Promotional Pricing | 642 | 0.02 | XR |
| Residential ULF Toilet Replacement | 6 | 0.64 | |
| Non-Res ULF Toilet Replacement | 228 | 0.44 | |

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Also included in the plan was the natural occurring conservation due to plumbing fixture replacement.

Shown in Table 3-3 are the savings expected for the previous recommended program. Note that the percentage of total water use reduction is 8 percent in water use (billings) by 2022. Expected savings in production, which include reduction of unaccounted for water as considered here, is 14 percent. The annual costs also vary with population, as more budget is required to reduce demand in a larger system. Overall the plan was to save 1.6 mgd by 2022. The unit cost of the water saved was projected to be \$0.10 per 1000 gallons saved or \$33 per acre-foot saved. The reason this is so low is that the natural occurring conservation due to plumbing fixture replacement is free, the cost to adjust the rates is just the cost of the rate study, the public information is inexpensive and whereas the system water audits leak detect costs are relatively high, the water saved should also be high. In other words water conservation was determined to be

is an excellent investment for Cedar City. It is desirable that additional supplies could be developed, treated, and distributed for such a long-term investment.

Table 3-3 Previous Record Achieved and Potential for Savings

| Measure | Water Saved-R High Growth (mgd 2022) | Annual Cost (\$/year) |
|-------------------------------|--------------------------------------|-----------------------|
| System Water Audits | 0.84 | 40,000 |
| Public Information | 0 | 2,500 |
| Non-Promotional Pricing | 0 | 2,000 |
| Total Savings Due to Measures | 0.84 | 40,500 |
| Natural Fixtures Replacement | 0.20 | 0 |
| Grand Total Water Savings | 1.04 | 40,500 |
| | | |
| Savings in Water Use, % | 8.08 | |
| Savings in Production, % | 4.7 | |

is

The following programs for the previous period; more details; the following programs;

System Water Audits; Leak Detection and Repair;

Some water utilities, unaccounted-for water (UAW), are authorized. The purpose of this measure is to reduce unauthorized use of water such as leaks from older and broken pipes, joints, or valves. Up to 40 percent of all UAW can be attributed to leaks. For example, if the UAW is greater than 10 percent of total production, then the leakage could be 4 percent, and the city may find a leak-detection and repair program beneficial. Lower UAW levels usually indicate that leak-detection and repair would not be cost-effective.

This goal involves reducing UAW, as a percentage of production to 10 percent. In many cases the easiest savings have already been found and the city will need to move into leak detection and repair to get the value less than 10 percent.

Verify a preliminary system water audit would be completed by the city. The audit would involve the following steps:

1. Determine metered sales
2. Determine other system verified uses
3. Determine total supply into system
4. Divide metered sales plus other verified uses by total supply into the system to determine UAW. If this quantity is less than 0.9 (more than 10 percent UAW), a full scale audit is needed.

When needed Cedar City would complete water audits of their distribution systems using a methodology consistent with that described in AWWA's "Water Audit and Leak Detection Guidebook."

Where the water audit indicates that leak detection and repair would be cost-effective, Cedar City would initiate a leak-detection and repair program. In addition, Cedar City would check customer bills for extreme changes that may indicate a leak in the customer's property. This step can be automated by programming the billing system to flag water bills with consumption greater than 25 percent of the previous year's consumption. The City would encourage these customers to look for leaks.

Cedar City will need to conduct water distribution piping leak detection surveys and repair leaks discovered during the surveys. The goal of the program should be to begin inspection of the pipes in older dense areas, then working outward to the outer limits the service area until all the piping has been inspected. The desired time to inspect all water distribution pipes for leaks is in the order of four years. Re-inspection of the pipes will begin upon the completion of the first overall survey and subsequent repairs. Leak survey equipment will be used in the initial survey. When a leak is located a crew with a leak detector would be called in to pinpoint the leak. The leak is then found and fixed by a repair crew.

Most of the work conducted by each leak detection and repair crew involves surveying the water distribution lines systematically. However, sometimes a water user or customer calls the City concerned that his/her water bill is unusually high. In this case, an investigator would assess the situation with leak detection equipment to determine if in fact a leak is present in the property. If a leak is present, then it is the customer's responsibility to have the leak repaired. The only instance that the City would repair the leak is if City personnel caused the break in the pipe during the investigation.

Pub; Inform; tion ;

This measure would expand existing public information efforts. It serves as the 'glue' to tie all the other measures together. It would not only address specific measures but also cultural/social aspects of establishing or enhancing a water conservation ethic among the Cedar City customers; most important, it would convey to the public an understanding of how water conservation is important. Programs include theatrical productions, poster contests, T-shirt design contests, speakers to exemplify good and community programs, presentations and tours with hands-on demonstrations; radio and television time, and printed educational material such as bill inserts. Utilities will attempt to put the water use form the same period in the prior year on customer water bills. Public education would continue to be used to raise awareness of other conservation measures available to Cedar City customers.

A public information program needs goals, staff, materials and a theme to be effective. The program will also need an annual budget to carry out the program. The following steps would be used to add the new program:

- Develop a clean and persuasive statement purpose
- Choose an appropriate theme
- Identify key target groups
- Select members for a water conservation committee
- Identify communication paths, resource materials, and volunteers

- u Design and implement specific campaigns E
- u nsure effective cE rdinatiEn and fELLE -thrEugh E

This measure targets all custEmers E ithin the Cedar CitE service area. The cE rdinatEr E uld E develEp the prEgram fELLE ing the steps listed aE ve. Once a purpEse statement has E een E created, a E ater cEnservatiEn theme E uld Ee decided upEn. This cEuld Ee Eased En the results E f this studE E hich E ill identifE E here mEst Ef the cEnservatiEn Eenefits E ill cEme frEm. E

A prEgram lEgE reflecting the theme shEuld then Ee selected. The image cEuld Ee realistic, E stElized, Er a friendlE caricature; and it shEuld Ee given a suitaEle name. This theme can Ee E retained Er mEdified as needed in the future. E

A puElic infErmatiEn specialist E uld likElE devEte mEst Ef their time tE puElic educatiEn. E AdditiEnal staff maE Ee invElved tE help E educating the puElic thrEugh a speakers Eureau, E tEurs, prEducing E ill inserts, creating displaEs at fairs and nurseries, giving presentatiEns, and E creating lE E ater-use gardens. This prEgram E ill likElE Ee carried Eut E ith in-hEuse staff. E Certain parts Ef the develEpment cEuld Ee cEntracted Eut, such as graphics and printing. A E ater E cEnservatiEn cEmmittee cEuld Ee created tE receive input frEm cEnsumers affected E the E prEgram, tE advise the E ater cEnservatiEn cE rdinatEr aE ut neE prEgrams, materials, and means E f cEmmunicating E ith target grEups; assist in ideas; and help develEp and implement specific E educatiEn E prEgrams. E The cEmmittee cEuld cE nsist E f E an E elected E fficial E as E chairpersEn, E representatives Ef interested agencies and parties, and technical persEnnel. E

TE cEnveE tE the custEmers the impErtance Ef E ater cEnservatiEn, the prEgram maE seek tE E explain E hE cEnstructiEn Ef E ater facilities maE Ee necessarE if E ater cEnservatiEn is nEt E practiced, hE mEuch these facilities E uld cEst, and then cEmpare these cEsts tE E hat Eenefits E can Ee received frEm cEnserving E ater. PuElic infErmatiEn E uld Ee used tE prEmEte the Ether E selected cEnservatiEn prEgrams as E ell. E

The variEus media fErms including E ill inserts, ads, and televisiEn and radiE spEts can Ee used tE E instill a cEnservatiEn ethic in the cEmmunitE. Specific material cEmpliments the Ether prEgrams E such as free audit prEgrams sE that the custEmers are aE are Ef hE tE take advantage Ef existing E cEnservatiEn prEgrams. FEr example, a spring E ill insert cEuld puElicize the availaEilitE Ef E irrigatiEn audits tE qualified custEmers (larger E ater users) Er the availaEilitE Ef free E ater audit E r retrEfit kits fEr hEmeE ners. E

LE E ater use landscaping is Eften prEmEted thrEugh demEnstratiEn gardens and ErEchures, E develEped thrEugh a puElic educatiEn prEgram. Cedar CitE cEuld start a Xeriscape prEgram that E cEuld include demEnstratiEn gardens at the E ater department's E ffice. E

Non-Promot;on; W; ter Pr; ng ;

Under this measure Cedar CitE E uld mEdifE their existing E ater rate structures tE target E reducing cEnsumptiEn. TraditiEnal E jectives in rate structure design include that the rates Ee E ased En the cEsts tE serve, that theE prEvide adequate and staEle revenues, that theE Ee fair Er E equitaEle amEng custEmer classes and vElume users, and that theE Ee easE tE implement and E administer. No E-prEmEtiEnal Er cEnservatiEn rates prEvide a financial incentive tE ratepaEers tE E reduce their E ater use, usualLE E applEing a surcharge En peak mEnths' usage Er E charging a E higher unit rate fEr E ater as mEre units are used. These rates are Eften nEt Eased En histErical E

costs to serve each customer group. Rates are held, some ratepayers, to be unfair. It is, therefore, essential that new rates be developed through a public process that assures acceptance of the purpose and design of the rate structure. It is important to recognize that, whatever the rate structure selected, greater leverage can be achieved from a combination of price with index and utility conservation programs than from price alone. Non-promotional meter pricing makes the most sense as part of a demand management program.

In the evaluation of meter rate alternatives the types of rates are considered: Rates with relative index meter allowances in the service charge, and inclining block rates. There are other rate forms that can be considered. Also most utilities have different rates for different classes of customers.

Non-promotional rates, especially inclining block rates, are sometimes perceived as being unfair. Public hearings will be required to hear the ratepayers' sentiments and to respond to them regarding the purpose of the rates and the design of the rate structure. Non-promotional rates should be presented to the public more as a subtle, but constant, reminder that meter is a precise commodity that should not be wasted than as an unyielding deterrent to meter use for traditional acceptance applications. The public should be reminded that they can minimize the effect of rate shock by implementing the various conservation measures that Cedar City endsorses, whether or not they are chosen as participants in the programs that are restricted (for budget and practical implementation reasons) to a limited number of participants per year.

LENTATION PROGRESS

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EVALUATION OF CONSERVATION □ROGRA□ EFFECTIVENESS □

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- u *Redu; t;on of UAW be;ow 10 per; ent ;*
- u *14.3% s; v;ngs ;n w; ter produ; t;on ;*
- u *8.1% s; v;ngs ;n w; ter use (b; ngs) by 2022 ;*

There ; re some ;nd; t ons th; t the C;ty h; s m; de s;gn;f; nt progress ; n ; onserv;ng w; ter. ; These ;n; ude redu; t;ons ;n un;t w; ter use r; tes ; nd ;n per; ent UMW ; nd UAW w; ter. S;n; e ; 1997 the un;t w; ter use r; te (w; ter produ; t;on d;v;ded by popu; t;on) h; s ste; d; yf; en from ; n ; ver; ge r; te of 261 gp; d to 229 gp; d ;n 2007. Th;s represents ; redu; t;on of ; pprox;m; te;y 14 ; per; ent. The UMW w; ter per; ent; ge (re; ted to UAW) ; s we; ; s vo;ume h; ve ; so f; en. The ; r; t;o of UMW to tot; w; ter produ; t;on fe; from 18 per; ent ;n 1997 to 10 per; ent ;n 2007. And ; t 6.2 per; ent, the UAW per; ent; ge ;s ;ess th; n the go; of 10 per; ent. ;

Add;t;on; w; ter ; onserv; t;on trends ; n be seen by ; omp; r;ng the ; h; nge ;n w; ter use to the ; orrespond;ng ; n; re; se ; n ;popu; t;on ;s;n; e ;the ;prev;ous ;p; n. ; ;T; b;e ;3-4 ;summ; r; es ;the ; n; re; se of ;ndoor, outdoor, b; ed, un-metered w; ter use ; s we; ; s tot; w; ter produ; t;on ; nd ; popu; t;on over the p; st 10 ye; rs. The t; b;e reve; s th; t ;n; re; se ;n ;ndoor w; ter us; ge w; s ; ne; r; yf; t. Outdoor w; ter use, on the other h; nd, ;n; re; sed subst; nt; y. Un-metered w; ter ; use ; tu; y de; ned. However, the de; ne w; s offset by ; ; orrespond;ng ;n; re; se ;n b; ed ; w; ter use wh; h suggests th; t the C;ty's ; ount;ng of b; ed w; ter use h; s ;mproved (wh; h ; shou; d h; ve tr; ns; ted to ;better w; ter revenues). Over; , w; ter produ; t on ;n; re; sed more ; s;ow; y th; n popu; t;on over the s; me t;me per;od, suggest;ng th; t ; onserv; t;on ; h; eved to d; te ; s ; bout 7 per; ent. Th; t ;s h; fw; y to the progr; m's tot; w; ter ; onserv; t;on go; of 14 per; ent. ;

Table 399 Conservation Trends 9

| 9 a9e9 Use 9 | P9oduc9on Volume (gal) 9 | | Inc9eas9 9 | | |
|-----------------|--------------------------|-----------|----------------|-----------|------------|
| | 19 7 9 | 007 9 | Amoun9(gal) 9 | % To9al 9 | % Annual 9 |
| Indoor P | 78P 7P 7P P | 8P 56P | 1P,47P 3P P | % | .26% P |
| Outdoor P | 54P 365 8P4 P | 8,8P6P 8P | 658,45P 5 P | % | 8.2P% P |
| Billed P | 3P,463,866 | ,386P | 677P 3P 34 P | 5P% | 4.2P% P |
| Un-Metered P | 77 434 P | 3 6P 7P | (76 377,734) P | -P6% | -3.0P% P |
| roduction P | 6P,54P 3P | 3P 86,6P | 6P ,545,3P P | 37% | 3.2P% P |
| P | P | P | P | P | P |
| Popula9on 9 | 19 7 9 | 007 9 | Amoun99 | % To9al 9 | % Annual 9 |
| P | 1P,3P8 | 6,48P P | 8P 8P P | 44% | 3.7P% P |

From the trends, it would appear that much of the savings are due to the reduction in indoor water use; however, the City's conservation efforts have been very successful. It should be noted however that the City's conservation efforts have been very successful. It should be noted however that the City's conservation efforts have been very successful.

RECOMMENDED PROGRAM UPDATES

The measures recommended in the previous paragraph are recommended for the following reasons: No additional measures are recommended. However, of the measures recommended, measures have been implemented to one degree or another, not all of the measures have been fully implemented. Conservation efforts should be continued with the following measures: other measures are recommended by the City should be continued. Specific ongoing or improved efforts are detailed in the following paragraphs:

System Water Audits Leak Detection and Repair

UAW is essential in 10 percent and is a key detection project; however, from the results of the UAW program, it would not be cost effective. However, the City should continue to perform the program; however, the City should continue to perform the program.

Public Information

The City has been good beginning to public information program; however, more should be implemented. An improved program should be developed, focused on residential (ke outdoor use). The City's number of public information programs; however, the City should continue to implement the City's efforts. The City should continue to implement the City's efforts through the news, by providing more frequent information. The City should continue to implement the City's efforts through the news, by providing more frequent information.

round ; onserv; t;on. And, the C;ty ; ou;d ;n; orpor; te ; xer;s; pe demonstr; t;on g; rden ;nto ; one of ;ts p; rks or bu; d;ng ; nds; pes. ;

NoE-PrEmEtiEnal Water Pricing E

R; tes shou;d be rev;ewed per;od; y both to qu; nt;fy the ;n;t; ;mp; t ; s we; ; s to see th; t the ; onserv; t;on effe; t ; ont;nues over t;me. Some ; djustment to the r; tes m; y be ; ons;dered ; t the ; t;me ;they ; re ;up ;for ; n ; n;re; se ;for ;f;n; n ; ;re; sons ; n ;response ;to ;the ;resu;ts ;of ;the ; mon;tor;ng. ; ;Add;t;on; ;r; te ; djustments ; omb;ned ;w;th ; n;re; sed ;fo;us ;through ; ;pub; ; nform; t;on progr; m m; y be effe; t;ve ;n further redu; ng outdoor w; ter us; ge. ;

OTHER I □ LE □ ENTATION CONSIDERATIONS □

In ; dd;t;on to the progr; m upd; te re; ommend; t;ons, the fo; ow;ng shou;d be ; ddressed by the ; C;ty ;n the;r ; onserv; t;on p; n ; nd progr; m to ; omp;y w;th the St; te of Ut; h requ;rements: ;

1. FEst; b; shment of ; t;me; ne for ; t;on ; nd ; n ev; u; t;on pro; ess to me; sure progress for ; onserv; t;on me; sures. ;
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4. PThe p; n shou;d ;n; ude ; drought/emergen;y e;ement. ;

APPENDIX G

CITY ORDINANCES: TIME-OF-DAY WATERING AND SCARCITY OF WATER

Section 37-7-1 Time-Of-Day Watering

- A. For purposes of this section the following terms shall have the following definitions:
1. **Culinary Water** shall include all water supplied through that portion of Cedar City's water works system for culinary use. Typical examples of culinary water include, but are not limited to, residential connections, business connections, and industrial connections.
 2. **Ditch Irrigation Water** shall include all water supplied by Cedar City pursuant to the terms of Chapter 21 of the Ordinances of Cedar City.
 3. **Irrigation** shall include the spraying, sprinkling, misting, flooding, dripping, or otherwise applying water on turf, gardens, trees, grass, shrubbery, or any other vegetation.
 4. **Secondary Irrigation Water** shall include all non-potable water supplied through any Cedar City water works system dedicated for secondary irrigation purposes. Typical examples of secondary irrigation water include, but are not limited to, large irrigation users such as schools, City recreational facilities, golf courses, or Southern Utah University. Additional irrigation uses may be added by the Superintendent of the Cedar City Water Works System.
- B. Beginning on April 1 and ending on October 31 of each calendar year, outside irrigation using culinary water is prohibited between the hours of 8:00 a.m. and 6:00 p.m., except for the following situations:
1. New lawns that require frequent irrigation for establishment purposes within thirty (30) days of planting;
 2. Short cycles required for testing, inspecting, and maintaining irrigation systems provided that there is a person physically present to monitor the system test; or
 3. Use of culinary water for irrigation of commercial stock and commercial gardens or plant nurseries that are licensed by the City, provided that the licensee or a representative is personally on the premises at the time the irrigation is taking place.
 4. Special permit issued by the Superintendent of the Cedar City Water Works System.
- C. Use of Secondary Irrigation Water and Ditch Irrigation Water are specifically excluded from the provisions of this ordinance.
- D. Within a calendar year culinary water users found violating this ordinance shall be subject to the following penalties:
1. Upon a first offense a notice reasonably designed to educate and inform the water user about the provisions of this ordinance shall be provided. The notice shall be deemed sufficient if left in a conspicuous location on the property where the ordinance violation occurs. An example is leaving a notice hanging on the front door of a residence, or the manager's door of a multi-unit dwelling.
 2. Upon a second violation the water supply to the property where the violation occurs shall be shut off. Once the water is shut off it may only be turned back on by City staff after the fee established in this ordinance or the City's fee schedule has been paid.
 3. Upon a third or subsequent violation the water supply to the property where the violation occurs shall be shut off. Once the water is shut off it may only be turned back on by City staff after the fee established by this ordinance or the City's fee schedule and an additional one hundred dollar (\$100) penalty have been paid.

- E. All fines and penalties shall be paid in full prior to restoration of water service. If not paid the fines shall be added to the water user's outstanding water bill and collected in accordance with the provisions of this ordinance.
- F. The City's Public Works Department shall maintain a complete list containing the time of day, date, and address of each property for the enforcement of the provisions of this ordinance.
- G. After the enforcement action has taken place a property owner shall be able to appeal. The appeal shall be to the City Manager. The appeal shall be limited in scope to the property owner having to show that on the dates and times recorded by the Public Works Department they were not irrigating with culinary water during prohibited times. The City Manager shall be limited in the remedy that may be provided. If clear from the facts and circumstances the City Manager may waive re-connection fees and/or penalties imposed by this ordinance and remove the unfounded violation from the records maintained by Public Works.
- H. For purposes of enforcing this ordinance each day when a violation occurs may be considered a separate violation.

Amended by City Ordinance No. 0423-14-1

Section 37-14 Scarcity Of Water

In the event of scarcity of water, whenever it shall in the judgment of the Council be necessary, the Mayor shall by proclamation limit the use of water to such an extent as may be required for the public good and also, said proclamation may determine the method, manner and time of use of said water.