

EAGLE MOUNTAIN CITY



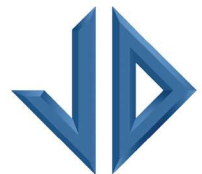
WATER CONSERVATION AND MANAGEMENT PLAN

November 26, 2024

Project #: 2409-056



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1. INTRODUCTION

Water conservation in the state of Utah is an issue of utmost importance to both citizens and leaders. In recent years, the intense drought throughout the state and the dropping water levels of the Great Salt Lake have brought much larger awareness to all Utahns on the need for water conservation. The state continues to experience rapid growth, which results in increased water needs. Concern over these issues has also been demonstrated by the state legislature session and the Utah Water Conservation Plan Act (Section 73-10-32 Utah Code Annotated). The act requires water conservancy districts and water systems with over 500 culinary connections to file a water conservation plan with the Utah Board of Water Resources and update it every five years. This plan is equally beneficial to the Central Utah Water Conservancy District which wholesales water to Eagle Mountain City. The plan demonstrates the measures being taken to allow them to continue to provide water to supplement the Eagle Mountains system demands.

The following water conservation plan has been prepared to comply with the Utah Water Conservation Act mentioned above and addresses the challenges associated with the continual rapid growth and the increased water requirements for Eagle Mountain City. The plan also identifies current conservation measures and outlines new measures designed to reduce per capita water use, better educate water users, and reuse water.

2. DEFINITIONS

CUWCD Central Utah Water Conservancy District

DDW Division of Drinking Water

psi pounds per square inch

gpm gallons per minute

SSA South Service Area

WWSA White Hills Service Area

ERC Equivalent Residential Connection

IFFP Impact Fee Facilities Plan

MG Million Gallons

PRV Pressure Reducing Valve

NSA North Service Area

IFC International Fire Code

AMI Advanced Metering Infrastructure

LOS Level of Service

3. DESCRIPTION

3.1. LOCATION

Eagle Mountain City is located in the Cedar Valley near the northern end of Utah County. Eagle Mountain city is west of Saratoga Springs, east of Cedar Fort, and South of Camp Williams. The city is at an elevation of 5,050 feet and has a total area of 53 square miles.

The city currently provides water to customers in Eagle Mountain and the White Hills area. For discussion purposes, the City's current service area has been broken into 3 areas: White Hills (WHS), North (NSA), and South (SSA) (Figure 1).

3.2. CLIMATE

As with many surrounding Utah County communities, Eagle Mountain City has a semi-arid or steppe climate due to its location between the deserts to the west and the higher mountains to the east. The average annual temperature in the area ranges from a low of 11°F in January to a high of 90°F in July. The region averages 13.49 inches of precipitation, with 35.4 inches of snow each year (Western Regional Climate Center 2024).

4. SYSTEM PROFILE

4.1. EXISTING SYSTEM

Eagle Mountain City provides water to customers of all three service areas within the city, namely: North, South, and White Hills (see Figure 1 for the location of each service area).

The current information reported to the Division of Water Rights shows there are currently a total of 14,962 connections with the City's system, a majority of which are residential. Of these connections there are:

- 78 commercial units,
- 38 industrial units,
- 45 churches and schools, and
- several open space connections.

The city is divided into eight pressure zones, including three in the White Hills service area. The water for the pressure zones is supplied by nine tanks, which total 13.3 MG of storage. The system is supplied by five City owned wells, one of which is not operational due to poor water quality, and wholesale water from the CWP pump station (owned the CUWCD). The locations of the tanks and wells are shown in Figure 1.

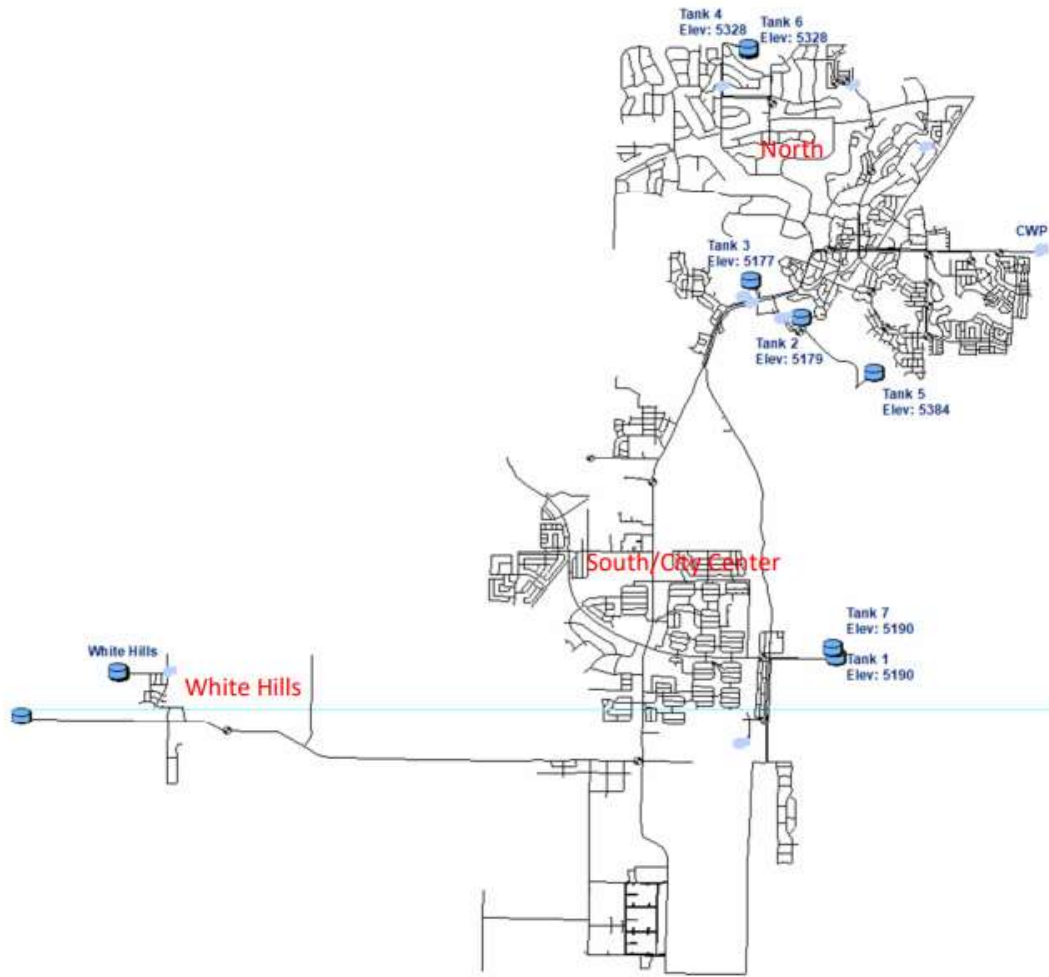


Figure 1. Existing System (IFFP, Psomas 2024)

4.2. STORAGE

Eagle Mountain currently has 8 culinary water storage tanks with a total storage volume of 13,279,465 gallons. Each tank and its respective storage volume is shown in Table 1. Eagle Mountain has plans to construct a new Upper White Hills storage tank with a volume of 4,000,000 gallons and abandon the existing White Hills tank. The tank should be finished in 2025 and increase the City's storage volume (Table 1).

Table 1. Eagle Mountain Storage Tanks

| Storage ID | Storage Name | Effective Volume (MG) | Future Volume (MG) |
|-----------------|-----------------|-----------------------|--------------------|
| ST-001 | Tank 1 | 1 | 1 |
| ST-002 | Tank 2 | 1 | 1 |
| ST-003 | Tank 3 | 2 | 2 |
| ST-004 | Tank 4 | 0.6 | 0.6 |
| ST-005 | Tank 5 | 2 | 2 |
| ST-006 | Tank 6 | 2.5 | 2.5 |
| ST-007 | Tank 7 | 3.5 | 3.5 |
| White Hills | White Hills | 0.68 | 0 |
| New White Hills | New White Hills | 0 | 4 |
| Total | | 13.28 | 16.6 |

4.3. SOURCE

Eagle Mountain City sources most of its water from seven wells, one of which is not in operation due to water quality issues (Well 4). Additionally, the city has a Purchase Agreement with Central Utah Water Conservancy District (CUWCD) for 15,000 acre-feet per year of water (see Table 2). The city also has two wells under construction and upgrades to two existing wells. It is anticipated Well 8 will be operational in 2025 and Well 7 in 2026. All the sources are in the same pressure zone and are pumped to existing tanks or through pipes to the lower portions of the system.

The City had a System-Specific Minimum Sizing Standard study conducted in 2022 which is due to be updated in 2025. Using usage data from the last three years, the maximum peak day source demand per ERC is approximately 1,440 gallons per day or 1 gpm. The city currently has 14,962 ERCs requiring a peak day source demand of 14,962 gpm. Because the ERC capacity is based on the maximum peak day source demand of 1 gpm, the ERC capacity is equal to the safe yield. The City's total ERC Capacity of 15,733 gpm is barely sufficient of the required 14,962 gpm. Plans for two new wells (Eagle Mountain Wells #7 and 8) and upgrades to existing wells (Well #5 and White Hills Wells) will help alleviate this source capacity deficiency.

Table 2. Eagle Mountain Wells

| Source Name | Current Source Safe Yield (gpm) | ERC Capacity | Future Source Safe Yield(gpm) | ERC Capacity |
|----------------------|---------------------------------|---------------|-------------------------------|---------------|
| Well #1 Walden | 2,133.33 | 2,133.00 | 2,133.33 | 2,133 |
| Well #2 | 1,466.67 | 1,467.00 | 1,466.67 | 1,467 |
| Well #3 Pony Express | 1,133.33 | 1,133.00 | 1,133.33 | 1,133 |
| Well #5 | 2,133.33 | 2,133.00 | 3,000.00 | 3,000 |
| White Hills Well #1 | 933.33 | 933 | 1466.67 | 1466 |
| White Hills Well #2 | 933.33 | 933 | 2,000.00 | 2,000 |
| Well #7 | 0 | 0 | 3,000.00 | 3,000 |
| Well #8 | 0 | 0 | 2,133.33 | 2,133 |
| CUWCD | 7,000 | 7,000 | 7,000 | 7,000 |
| Total | 15,733.33 | 15,733 | 23,333.33 | 23,333 |

With continued growth the system is currently barely meeting the required source capacity, but several projects are in the design or construction phase to reduce and eliminate the shortages by 2028 (see IFFP, Psomas 2024).

5. DEMOGRAPHICS

5.1. CURRENT POPULATION

Eagle Mountain City has a current population of 61,266 and is growing rapidly. The City’s current number of ERCs is 17,475.

5.2. PROJECTED POPULATION

The population projections for this plan update are based on the projections included in Eagle Mountain City’s 2023 Economic Development Master Plan and 2024 IFFP that has yet to be adopted. The population and ERCs from those plans were estimated to be a linear growth, using growth rates of 5,200 additional people and 1,410 new ERCs per year (Table 3).

Table 3. Eagle Mountain Population and ERC Projections

| Year | Population | ERCs |
|------|------------|--------|
| 2023 | 61,266 | 17,475 |
| 2024 | 66,466 | 18,885 |
| 2026 | 76,866 | 21,705 |
| 2028 | 87,266 | 24,525 |
| 2030 | 97,666 | 27,345 |
| 2032 | 108,066 | 30,165 |
| 2034 | 118,466 | 32,985 |
| 2036 | 128,866 | 35,805 |
| 2038 | 139,266 | 38,625 |
| 2040 | 149,666 | 41,445 |
| 2045 | 175,666 | 48,495 |
| 2050 | 201,666 | 55,545 |
| 2055 | 227,666 | 62,595 |
| 2060 | 253,666 | 69,645 |

6. WATER USE

Utah’s statewide conservation goal is to reduce water use per capita by 16% by 2030. To accomplish this goal, regional goals have been set considering a variety of different factors and public input. Eagle Mountain is part of the Provo River region which has a goal to reduce water usage by 19%, which equates to 179 gallons per capita per day (gpcd). For Eagle Mountain to successfully meet the growing water demand within the city, they will need to efficiently use the water they have. Eagle Mountain City has made wise decisions to meet this goal (see Figure 2) but continues to actively seek additional ways to conserve water. Below are charts and graphs that show the current water usage and GPCD in Eagle Mountain City, which includes both culinary and secondary water usage.

The city’s per capita consumption of water has decreased over the last few years, despite steady growth, staying under the Provo River Region goal of 179 gallons per capita per day (Table 4). This yearly reduction in usage per capita can be attributed to the City’s conservation efforts and the installation of a separate secondary system in the south part of the City. The reuse system currently only serves parks; all residential and commercial irrigation is still served by the culinary system.

Table 4. Eagle Mountain City Usage in gallons per capita per day

| Year | Population | Total Use Ac-ft/yr | Usage gpcd |
|------|------------|-----------------------|---------------|
| 2023 | 61,266 | 8,618.00 | 125.59 |
| 2022 | 51,980 | 8,812.79 | 151.36 |
| 2021 | 51,600 | 8,343.23 | 144.35 |
| 2020 | 45,000 | 9,095.58 | 180.44 |
| 2019 | 38,215 | 6,360.94 | 148.60 |
| 2018 | 38,170 | 6,343.39 | 148.36 |
| 2017 | 34,000 | 5,566.00 | 146.15 |
| 2016 | 33,200 | 5,228.53 | 140.59 |
| 2015 | 27,160 | 4,976.28 | 163.57 |
| 2014 | 24,000 | 5,005.07 | 186.18 |

6.1. CURRENT

Water usage within Eagle Mountain varies from year to year. In past decades, water usage has trended upwards with the population. However, in recent years usage has remained mostly stable despite the increasing population (Table 4). Because of this, the City has maintained its water usage per capita below the Provo River Region’s goal of 179 gpcd (Figure 2). The projected number of ERCs by type is shown in Figure 3.

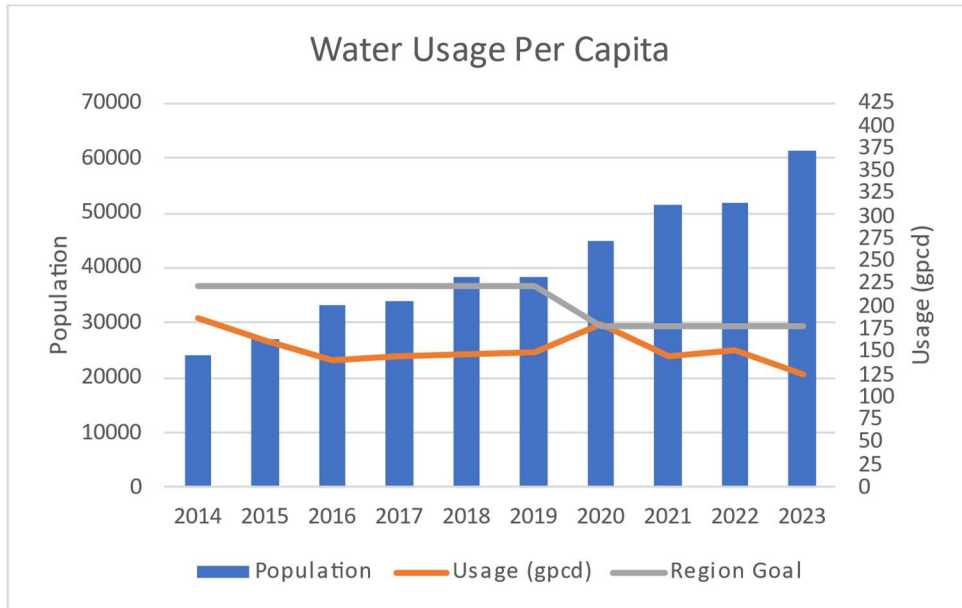


Figure 2. Historic Water Usage

6.2. FUTURE

The following is a graphical representation of the expected growth and ERC projections as described in section 5.2

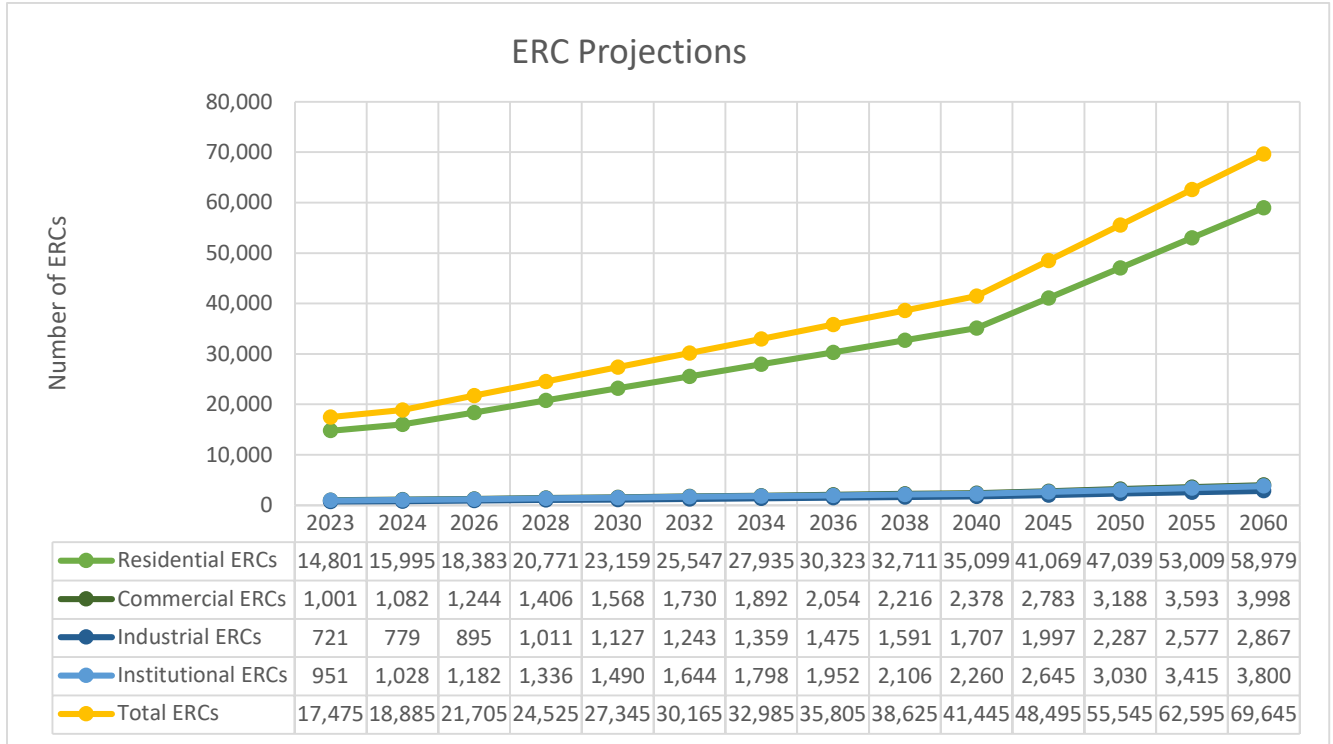


Figure 3. Eagle Mountain ERC Projections

7. IDENTIFIED CHALLENGES

7.1. PHYSICAL CHALLENGES

The rapid growth of Eagle Mountain has led to a rapid demand of potable water. Even though Eagle Mountain has high yield wells and an agreement with Central Utah Water Conservancy District to wholesale water to the City, the City is still below its source requirement. Projections through 2040 identified in the IFFP shows a required 34,637 gpm of safe yield. New sources in combination with water conservation will be important to ensure Eagle Mountain's success.

Due to Eagle Mountains geographical location, there are limited water resources to pull from; there are no rivers, streams or springs that can be used for drinking or irrigation water. The only water resources to the City are deep wells and wholesale water piped in from Central Utah Water Conservancy District.

7.2. SOCIAL CHALLENGES

Though Eagle Mountain City has done great things in the recent years to educate the public, citizens of Eagle Mountain City still lack education on efficient water use practices and landscaping water requirements. Current watering habits tend to place greater importance on convenience than on water conservation.

8. EXISTING CONSERVATION PRACTICES

Eagle Mountain City has implemented several conservation measures to help encourage the population to conserve water. The city is also in the process of implementing several new conservation measures which will continue to encourage water conservation.

The City Hall, built in 2004, uses xeriscaping for approximately 60% of the total landscaped footprint of the site. In 2005, Eagle Mountain City began replacing grass in the street medians along Ranches Parkway with xeriscape. In 2024, the Meta Site construction was completed so that process water from the site can be reused to irrigate the Cory Wride Park in the city. The current city conservation measures and practices are as follows:

8.1. EAGLE MOUNTAIN CITY COORDINATOR AND STAFF

Eagle Mountain City does not have an official Water Conservation Coordinator, but the City Code Enforcement Officer enforces the water ordinance for conservation purposes.

| Name | Position | Phone Number | Email Address |
|----------------|-------------------------------|--------------|---------------------------------|
| Mack Straw | Public Utilities Manager | 801-789-6678 | mstraw@eaglemountain.gov |
| Jordan Nielson | Water Resources Supervisor | 801-789-6600 | jordannielson@eaglemountain.gov |
| Jim Barney | City Code Enforcement Officer | 801-789-6670 | jbarney@eaglemountain.gov |

8.2. EAGLE MOUNTAIN CITY WATER ORDINANCES

8.2.1. WATER USE REGULATIONS

The current water use ordinance prohibits outside watering between the hours of 10:00 am and 6:00 pm. First Offense Violators will be issued a letter warning them to comply with the ordinance. Second Offense Violators will have their water service terminated and will be subject to a \$100.00 reconnection charge.

City ordinance 15-2004 regulates alternate day outdoor watering based on the (odd/even) addresses of water users. Violations of this ordinance will be handled as stated above.

Results from 2019 plan: In 2023, Eagle Mountain approved measures to limit irrigation of front yards. Requirements were put in place to limit the lawn areas in the front or side yards to not exceed the

greater of 250 square feet, or 50% of the total landscape area for new developments. This saves the City an average of approximately 0.04 gpm on the peak flow rate or 0.01 ac-ft/year per lot.

8.3. UNIVERSAL METERING

The city is currently metering the source water that serves the population of Eagle Mountain. Source metering is essential for water accounting purposes and water use determination. These metering devices on both the storage and source systems monitor daily and total flows.

The city also requires all existing and future developments to install individual water metering devices for each connection to help the city determine the amount of water each connection is using. The metering process has also allowed the city to implement a tiered water rate system based on usage (see Section 8.2.4 below). The meters help inform customers of their usage and potentially encourage water conservation. The individual meters operate on regular monthly readings of usage.

Results from 2019 plan: Approximately 2/3 of the system meters now operate on the metering system. This usage is compared with the source meters to verify water usage and helps identify potential problems and losses within the system (see Section 8.2.3).

8.4. WATER ACCOUNTING AND LOSS CONTROL

Unaccounted water is the discrepancy of the water from the individual meters to the source metered water usages. An analysis of this unaccounted water can be used to determine recoverable losses and leaks within the system. This also identifies potential revenue-producing opportunities for the city.

Periodic system audits are conducted by the city to determine the accuracy of the unaccounted waters.

Every year the City Water Resources Manager tracks unaccounted water to determine the cost of the lost water when calculating financial numbers at the end of each year. A table showing unaccounted water tracking for 2023 is shown in Table 5 below.

Table 5. Unaccounted Water 2023 (Eagle Mountain Water Use Report)

| | |
|--|-----------------------------|
| Total from All Source Water | 3,092,521,642.00 gal |
| Water Total from All Diversions | 1,504,539,642.00 gal |
| Purchased Water | 1,587,982,000.00 gal |
| Total of All Water Use | 2,846,277,592.80 gal |
| Sum of Retail Culinary Use | 2,808,490,651.80 gal |
| Sum of All Wholesale Deliveries | 37,786,941.00 gal |
| Sum of All Returns | 0.00 gal |
| Estimated Water Loss | 246,244,049.20 gal |
| Estimated Water Loss Percentage | 7.96 % |

Properties with large landscapes are also audited for irrigation usage, application efficiency, and scheduling. Some of these properties include parks, churches, high water use residents, and municipal

properties. The audits are used in conjunction with dedicated irrigation meters and other landscape efficiency practices. The City Water Department staff reach out to known high water users to advise them that their usage is high. Any resident with high consumption or concerns about usage are encouraged to reach out to the water department for support.

Routine maintenance is performed on the system to ensure it is functioning at the highest capacity with minimal loss. Identified leaks are dealt with quickly and repaired to reduce the amount of lost water in the system.

8.5. WATER RATE STRUCTURE

Eagle Mountain City has developed a water rate structure that incentivizes water users to conserve water by making water wise choices to keep their water bill down. The rate structure also maintains an adequate amount of revenue to cover operational expenses. Table 6 provides the current prices for culinary water use. The rates are on top of a \$40 deposit and a monthly base rate of \$25.50. Industrial properties are subject to a uniform rate of \$1.58 per thousand gallons.

Table 6. Eagle Mountain Water Rates (2024)

| Tier | Residential (<0.5 acres) | Large Residential (>0.5 acres) | Commercial | Institutional | Rate (per 1,000 gallons) |
|------|--------------------------|--------------------------------|---------------|---------------|--------------------------|
| 1 | 0-65 kgal | 0-120 kgal | 0-170 kgal | 0-500 kgal | \$1.38 |
| 2 | 65-115 kgal | 120-170 kgal | 170-220 kgal | 500-750 kgal | \$1.46 |
| 3 | 115-165 kgal | 170-230 kgal | Over 230 kgal | Over 750 kgal | \$1.52 |
| 4 | Over 165 kgal | Over 230 kgal | N/A | N/A | \$1.58 |

8.6. PRESSURE MANAGEMENT

Pressure reducing valves within the city’s water system helps manage water pressures within the system and protect equipment. The city also requires the installation of pressure reducing valves on higher pressure homes within the system. Technical assistance is given to customers to help address the higher pressures experienced in their home.

8.7. PUBLIC INFORMATION AND EDUCATION

Eagle Mountain City has been very proactive in seeking to better educate the public on water conservation issues. The recent drought in Utah and the crisis for the Great Salt Lake has brought a much larger awareness to the public of the need to conserve water. The city has produced and continues to develop an assortment of informational pamphlets for its customers. The education program helps explain what water users can do to help conserve water and fulfill city conservation goals. The information supplied also informs water users of the cost of supplying drinking water and demonstrates how water conservation practices will provide water users with long term savings.

The city has created a website with a comprehensive list of landscape watering conservation tips, along with many helpful links to resources provided by the State of Utah and Utah State University (<https://eaglemountain.gov/priorities-plans/water-conservation/>). The website is reviewed weekly for needed updates. The City is active on social media platforms such as Facebook, X, Instagram, and YouTube, and often use these platforms to promote and educate the public on water conservation. Eagle Mountain City provides more information in the water conservation section of the monthly newsletter to all residents. Below is a list (not comprehensive) of effective conservation practices included on the website, in social media posts, and in the newsletter:

- Visually inspect sprinkler systems once every month during daylight hours. Check and fix any tilted, clogged, or broken heads.
- Avoid watering during the hottest hours of the day to minimize evaporation.
- Water in cycle by reducing the number of minutes on the timer and using multiple start times spaced one hour apart. This allows water to soak into the soil and avoids runoff.
- Water lawn only when it needs it. If walking on dry lawn leaves footprints it is probably time to water.
- Turn the sprinkler system off during or after a rainstorm and leave it off until the plants need to be watered again.
- Consider installing an automatic rain shutoff device on sprinkler system.
- Install a drip irrigation system for trees, shrubs and flowers.
- Check sprinkler valves for leaks when checking all your heads.
- Avoid watering the lawn during windy periods.
- Increase days between watering lawns. Allowing the lawn to dry out between watering creates deeper roots and makes it possible for water to infiltrate deeper so you can water less often.
- Place a rain gauge in your backyard to monitor rainfall and irrigation.
- Test soil moisture with a soil probe or screwdriver before watering. If the soil is moist, don't water.
- Watch out for broke sprinklers, open hydrants, broken pipes and any other significant water losses in your community. Be sure to notify the property owner or the water district of the problem.
- Make sure the water coming out of your sprinklers is not misting and drifting away in the wind. This is usually caused by pressures that are too high. If necessary, install a pressure reducer on the sprinkler line.
- Follow the state irrigation guidelines for how many times you should water each week.

8.7.1. SLOW THE FLOW

The public is being encouraged to participate in a sprinkling system efficiency study sponsored by the state "Slow the Flow" program.

Results from 2019 plan: To aid in the success of the residents to make water wise decisions, the Eagle Mountain Library has two water check kits complete with catch cups, guides, and more to help residents conduct their own water check on their property.

8.8. WATER REUSE AND RECYCLING PLAN

Reuse of effluent wastewater is controlled by the Utah Administrative Code and is classified as Type I and Type II reuse. Type I reuse is designated as “safe for human contact” but not potable. Type II is designated as “not for human contact and can be used for irrigation.

Results from 2019 plan: The State Division of Water Quality has permitted reuse of the Facebook cooling water as construction water with its own testing and sampling criteria. Eagle Mountain City requested permitting for the reuse of the industrial wastewater obtained from Facebook as Type I reuse water. The Wastewater Treatment plant has been expanded to treat this industrial water for reuse.

The first phase of this project has been constructed and the reuse line to Cory Wride Park and booster pump station is now operational as of the 2024 irrigation season. The new system saved 77,715,648 gallons of potable water in the 2024 irrigation season by using the reuse water rather than what has traditionally been done which was to use potable water. The subsequent phase will be to connect additional parks and churches that will be built in the South and White Hills Service Areas with reuse lines off the main reuse line as outlined in the Reuse IFFP.

8.9. LANDSCAPE EFFICIENCY

The city promotes the development of new water conservation principles in the planning, development, and management of new landscape projects such as the golf course, existing parks, open space areas, and other municipal properties. The city also encourages and supports future developments to participate in the low water usage landscape and xeriscape of properties.

The city currently encourages irrigation metering, timing, and water sensing devices that promote low water usage for both the large volume customers and residential users.

8.10. REPLACEMENT AND PROMOTIONS

Eagle Mountain City falls within the Central Utah Water Conservancy District’s (CUWCD) service area, meaning CUWCD runs all the conservation programs in the area. There are also rebates offered through the State.

There are residential smart controller rebates offered state-wide. Residents can apply for this rebate at <https://www.utahwatersavers.com/>.

Eagle Mountain businesses and commercial property owners are also eligible to get a similar rebate through CUWCD for commercial toilets and commercial smart controllers. These rebates are for schools, cities, businesses, multi-family housing, institutions, and industrial areas. Those rebates can be applied for at <https://www.cuwcd.gov/commercial-rebates#gsc.tab=0>.

The residential and commercial Landscape Incentive Programs are not currently available in Eagle Mountain because there is a state mandate that cities must adopt specific water-wise landscaping

ordinances for new development to qualify. Eagle Mountain does not currently have qualifying language in their ordinance.

8.11. SYSTEM UPGRADES

Results from 2019 plan: Eagle Mountain City recently upgraded all irrigation systems so that the sprinkler heads work off smart controllers which automatically adjust the water when it rains or the outdoor temperature drops.

The city is also in the process of changing all residential meters to smart meters with the ability to read down to the gallon. This will come with a resident portal that will give leak alerts, high usage warnings, and help the city know who is violating the outdoor watering timing ordinance. This is an ongoing effort and will be discussed in the following Proposed Conservation Measures section.

9. CONSERVATION GOALS

Eagle Mountain City has varied methods for promoting and maintaining water conservation throughout the city. These methods will allow the City to continue to deliver safe drinking water to all of its customers and help ensure long-term, low cost sustainability of the water system. Due to the City's conservation efforts their current usage of 125.59 gallons per capita per day (gpcd) is below the region's water conservation goal of 179 gpcd, but the City knows they can still do better. The City has several goals to drive current and future conservation practices. The goals are as follows:

1. Reduce the previous 5-year average usage (150.07 gpcd) by 19% to 121.5 gpcd by 2030.
 - a. This will be 2/3 the Provo River Region goal of 179 pgcd.
2. Increase public awareness of water conservation practices.
3. Continue emergency planning for drought and system failures.
4. Look for opportunities to increase the reuse system.
5. Complete installation of Advanced Metering Infrastructure (AMI).

10. PROPOSED CONSERVATION MEASURES

Eagle Mountain City is aggressively pursuing the development of more effective conservation plan for future water use practices. The city's plan is to implement the new program within the next 5-10 years and maintain the current low water usage. The city has plans to implement the following item of control.

10.1. EAGLE MOUNTAIN CITY COORDINATOR AND STAFF

Eagle Mountain will review the feasibility of creating a full-time conservation coordinator position. The role would include scheduling appointments, managing all program documents and rebates, and any other tasks needed for water conservation within the City. The coordinator would also have a focus on public outreach while coordinating and assisting with rebates, audits, consultations, and assisting customers with leak checks.

10.2. UNIVERSAL METERING

Eagle Mountain City intends to install Advanced Metering Infrastructure (AMI) on all residential connections. The new meter system will give real time water measurement rather than the once-a-month readings that have been the standard. Currently, the city has about 15,800 connections; 10,000 Sensus meters are in place and 5,800 meters that still need to be replaced. The meters will be set up to send measurements to relay towers in 1-gallons units instead of 1000-gallon units. After the meters read in 1-gallon units, the city will be able to receive accurate alarms on accounts that have high usage or continuous flow, which might indicate a leak. Working with residents to fix leaks early will result in conservation of water.

In addition to the City receiving alerts, the City plans to give residents access to a public portal to monitor their own usage, set goals and receive alerts about potential leaks.

The City also plans to offer a one-time utility bill credit of \$20 to those who sign up for the portal and create a water usage goal.

The City anticipates this process will take approximately five years. A detailed implementation timeline is found in Section 11.

10.3. WATER ACCOUNTING AND LOSS CONTROL

Water audits can be widened to include selective audits by customer classes. These classes can focus on typical water use practices within each class. An audit program can be selective in terms of targeting customer groups that have particular needs for which water conservation would be particularly beneficial.

10.4. WATER RATE STRUCTURE

Eagle Mountain has changed its approach to setting utility rates and now gradually increases rates annually based on what is needed to cover costs and preserve an adequate emergency reserve. Annual rate increases will typically be about 4% but may increase or decrease depending on the health of the water utility.

10.5. PRESSURE MANAGEMENT

Pressure reducing valves within the city's water system helps manage water pressures within the system and will continue to monitor they pressures in the system This help protect existing equipment that could fail due to high water pressure and cause minor or major leaks throughout the system. The city also requires the installation of pressure reducing valves on higher pressure homes within the system. Technical assistance is given to customers to help address the higher pressures experienced in their home.

10.6. PUBLIC EDUCATION AND OUTREACH

The installation of the new meters will send readings to towers the city has installed multiple times a day. These reads are connected to Sensus software where the city can view each account to get a better understanding of each customer's usage. Once the meters have been updated to read in 1-gallon units instead of 1000-gallon units, accurate alarms can be sent to residents on accounts that have high usage or continuous flow, which might indicate a leak. If residents are made aware of their usage, there is potential for water conservation and fixing the leaks in the system. Eventually, a resident portal will be implemented so that individual customers can log into the Sensus system and view their usage data themselves. Leak and continuous usage alerts can be setup for each meter.

Outreach methods for the public education program include the use of operating booths at public events, dispersion of pamphlets, videos, and other media to help educate the users through a civic organization. The following are some specific items that can be used to extend further.

10.6.1. WATER BILLS

An informative water invoice gives customers a significant amount of information to keep them informed about their water use. A typical water invoice gives information used to calculate the bill based on water usage and rates. An informative bill compares previous bills and gives tips on how to conserve water usage. Along with an informative bill, the city plans to include inserts in their customers' water bills that can provide information on water use and costs. Inserts can also be used to distribute tips on water conservation.

Eagle Mountain is working to develop a new water bill format that is focused on conservation efforts by educating residents with water consumption data and how they compare to neighbors or and efficient use. The goal is to provide a visual graph during the outdoor watering season (April-October) to show residents if they are efficiently using their water or if improvements could be made. The feasibility of providing visual graphs will be evaluated with their billing department.

10.6.2. RESIDENTIAL WATER AUDIT PROGRAM

If the City is able to create a full-time water conservation coordinator position, a program will be established to allow residents to schedule an hour-long appointment with the certified staff to go over their outdoor water usage and assist them with water savings during the summer months. Using catch cans, sprinkler system information and weather history would help residents determine effective watering times and frequency.

10.6.3. EAGLE MOUNTAIN WATER CONSERVATION WEBSITE

Eagle Mountain has developed a specific water conservation website, <https://eaglemountain.gov/priorities-plans/water-conservation/>, to educate the public on conservation practices, landscape designs, soil improvements, and irrigation scheduling guidelines. It also has helpful

links to other resources such as Localscapes, Slow the Flow, and more. The website can also be used to educate the public on what measures the City is taking during drought conditions. The website is reviewed weekly for needed updates. The City is also active on social media platforms such as Facebook, X, Instagram, and YouTube, and often use these platforms to promote and educate the public on water conservation.

10.7. WATER REUSE AND RECYCLING PLAN

Eagle Mountain City is projected to build 6,710 new homes in the South and White Hills Service Areas. It has been recommended that the City implement a policy of installing reuse lines in all new subdivisions. This will equal approximately 400 acres of irrigable lawn for Type I reuse water.

The city will continue to have opportunities to grow their reuse capabilities as the city's service area expands. Eagle Mountain City will prepare a Secondary Water Master Plan to aid in this growth.

10.8. LANDSCAPE EFFICIENCY

Existing landscape within the city can be renovated with water-conserving plans and practices. If the City was to require new developments and the large water users to adopt a drought tolerant planting requirement it would decrease the typical outdoor water use by 50%.

Water-wise or drought resistant plants adjust and survive with little to no irrigation. There are several benefits for including this type of vegetation in the design of landscapes, some of which include low water use for irrigation, less use of fertilizer, and low maintenance. Contrary to what most people think there is a variety of water-wise plants from ground cover to perennials which are great for both residential and commercial use. This conservation measure will be coordinated and implemented by the parks department.

10.9. OTHER CITY LED INITIATIVE IDEAS

Eagle Mountain City is currently working on an Asset Management Plan and a Reuse Water Plan to aid in planning for future water conservation.

11. IMPLEMENTATION TIMELINE

Eagle Mountain City's Council and staff are committed to ensuring the outcomes and goals of this document are reached and that appropriate action will be taken. It is understood that the Public Utilities Manager and the Water Resources Supervisor will manage the water conservation efforts until a Water Conservation Coordinator position has been created. It will be their responsibility to place a reasonable timeline for each project to ensure the goals are met within the time presented. Funding will be provided for the measures provided in this plan based on authorization of the City Council and under guidance of the City Manager.

A five-year implementation timeline for Section 10.2 – Universal Metering is shown below:

- 2025
 - Swap existing meters to Sensus smart meters at the rate of 1160 annually.
 - Evaluate progress quarterly to ensure City is on track to meet goal.
 - Begin process of acquiring resident portal service.
 - Utilize metering data to identify possible leaks in system and notify residents who may have leaks.
- 2026
 - Continue swapping meters to Sensus smart meters at the rate of 1160 annually.
 - Evaluate progress quarterly to ensure City is on track to meet goal.
 - Implement resident portal for residents who have Sensus meters.
 - Utilize public outreach to let residents know about resident portals and benefits from using it.
 - Utilize metering data to identify possible leaks in system and notify residents who may have leaks.
- 2027
 - Continue swapping meters to Sensus smart meters at the rate of 1160 annually.
 - Evaluate progress quarterly to ensure City is on track to meet goal.
 - Utilize metering data to identify possible leaks in system and notify residents who may have leaks.
- 2028
 - Continue swapping meters to Sensus smart meters at the rate of 1160 annually.
 - Evaluate progress quarterly to ensure City is on track to meet goal.
 - Utilize metering data to identify possible leaks in system and notify residents who may have leaks.
- 2029
 - Swap out all remaining meters for Sensus smart meters.
 - Utilize metering data to identify possible leaks in system and notify residents who may have leaks.
 - Conduct public outreach about resident portal and try to get as many residents as possible to sign up and utilize resident portal.
 - Evaluate water savings resulting from smart meter leak alerts as well as alerts residents received from resident portal.

It is recommended that the Public Utilities Manager and Water Resources Supervisor make annual reports on the progress of the water conservation plan and goals outlined within a report to the City Council. They should also continue to update the plan to ensure that it meets changing conditions and needs within Eagle Mountain City. This plan will be updated and resubmitted to the Utah Division of Water Resources in 2029.