CEDAR HILLS

PLANNING COMMISSION MEETING
OF THE CITY OF CEDAR HILLS
Tuesday, September 23, 2025 6:00 p.m.

Notice is hereby given that the Planning Commission of the City of Cedar Hills, Utah, will hold a **Planning Commission Meeting on Tuesday, September 23, 2025 beginning at 6:00 p.m.** at the Community Recreation Center, 10640 N Clubhouse Drive, Cedar Hills, Utah. This is a public meeting, and anyone is invited to attend.

PLANNING COMMISSION MEETING

1. Call to Order
2. Public Comment: Time has been set aside for the public to express their ideas, concerns, and comments (comments limited to 3 minutes per person with a total of 30 minutes for this item)

SCHEDULED ITEMS & PUBLIC HEARINGS

3. Approval of the minutes from the July 29, 2025 Planning Commission meeting
4. Review/Recommendation and Public Hearing on Final Plan approval for a Commercial Development at 4773 W Cedar Hills Drive, located in the Cedar Hills Retail Center Subdivision (Jack in the Box)
5. Review/Recommendation and Public Hearing on the Water Conservation Element of the Cedar Hills General Plan

ADJOURNMENT

6. Adjourn.

Posted this 19th day of September, 2025 /s/ Colleen A. Mulvey, City Recorder

Supporting documentation for this agenda is posted on the city website at www.cedarhillsutah.gov.
In accordance with the Americans with Disabilities Act, the City of Cedar Hills will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by contacting the City Recorder at 801-785-9668 at least 48 hours in advance of the meeting to be held.
The order of agenda items may change to accommodate the needs of the Planning Commission, the staff, and the public.
This meeting may be held electronically to permit one or more of the commission members or staff to participate.

PUBLIC MEETING AND PUBLIC HEARING ETIQUETTE

Please remember all public meetings and public hearings are recorded

- All comments **must** be recognized by the Chairperson and addressed through the microphone.
- Please do not approach the Council/Commission dais without permission from the Chairperson.
- When speaking to the Council / Planning Commission, please stand, speak slowly and clearly into the microphone, and state your name and address for the recorded record.
- Be respectful to others and refrain from disruptions during the meeting. Please refrain from conversation with others in the audience as the microphones are very sensitive and can pick up whispers in the back of the room.
- Keep comments constructive and not disruptive.
- Avoid verbal approval or dissatisfaction of the ongoing discussion (i.e., booing or applauding).
- Exhibits (photos, petitions, etc.) given to the City become the property of the City.
- Please silence all cellular phones, electronic devices or other noise making devices.
- Be considerate of others who wish to speak by limiting your comments to a reasonable length and avoiding repetition of what has already been said. Individuals may be limited to three minutes and group representatives may be limited to five minutes.
- Refrain from congregating near the doors or in the area outside the council room to talk as it can be very noisy and disruptive. If you must carry on conversation in this area, please be as quiet as possible. (The doors must remain open during a public meeting/hearing.)

Public Hearing v. Public Meeting:

If the agenda item is a **public hearing**, the public may participate during that time and may present opinions and evidence for the issue for which the hearing is being held. In a public hearing there may be some restrictions on participation such as time limits.

Anyone can observe a **public meeting**, but there is no right to speak or be heard there - the public participates in presenting opinions and evidence at the pleasure of the body conducting the meeting.

The City of Cedar Hills

TO:	Planning Commission
FROM:	Sarah Sampson
DATE:	September 23, 2025

SUBJECT:	Review/Recommendation and Public Hearing on final plan approval for a Commercial development at 4773 W Cedar Hills Drive, located in the Cedar Hills Retail Center Subdivision (Jack in the Box)
APPLICANT PRESENTATION:	
STAFF PRESENTATION:	Sarah Sampson, Associate Planner

BACKGROUND AND FINDINGS:

Overall Project Summary:
The Cedar Hills Retail Center project is a new commercial development located at North County Blvd. and Cedar Hills Drive in Cedar Hills, Utah. The project consists of a 2000 SF retail building that will house a drive-thru tenant, Jack In the Box, The site is zoned SC-1 (Shopping Center)
Site Details:

Total lot area: 30866 SF (0.709 ac)
Building area (including trash): 2000 SF (7% of lot)
Hard surface/impervious area: 17,383 SF (56% of lot)
Landscape area: 11,483 SF (37% of lot)

Drive-Thru:
The drive-thru is designed to accommodate up to 12 vehicles with stacking.

Building and Architecture: revised elevation plans have been provided. Significant progress has been made on the exterior, with red and tan brick covering the majority of the exterior. They have included purple awnings and a red "cube" for their proprietary sign on the building.

Landscaping:
Landscaped area totals 11,483 SF (37% of project area)
various plantings and irrigation infrastructure

Site Utilities and Stormwater Management:
This project includes comprehensive utility planning, New water service connections, sanitary sewer system with grease trap and sewer cleanout
StormTech system will be shared with the North lot tenant
Required storage: 3,471 cu. Ft.
Provided Storage: 4,122 cu. Ft.

Lighting: Pending photometric submittal

This comprehensive development project is designed to comply with all local standards and requirements while providing an attractive retail space with efficient traffic flow and suitable amenities.

PREVIOUS LEGISLATIVE ACTION:

Preliminary approval and public hearing by council on August 5, 2025

FISCAL IMPACT:

N/A

SUPPORTING DOCUMENTS:

Updated elevations

RECOMMENDATION:

Staff recommends that the Planning Commission approve the final plan, subject to any changes required, and recommend to City Council.

MOTION:

To recommend/not recommend the final approval for a Commercial development at 4773 W Cedar Hills Drive, located in the Cedar Hills Retail Center Subdivision (Jack in the Box), subject to the following conditions:

-Traffic study submittal

-Final engineering review

-Exterior elevation code compliance

{LIST ANY OTHER CONDITIONS NECESSARY FOR APPROVAL}


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Jack
Open
LATE
NIGHT
THE BEST BURGER JOINT FAMOUS FOR ITS TACOS
THE BEST BURGER JOINT FAMOUS FOR ITS TACOS
OPEN
Open LATE NIGHT


Jack
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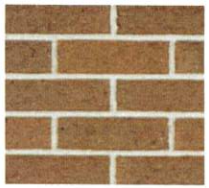

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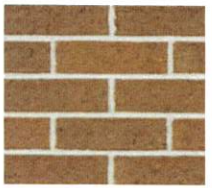

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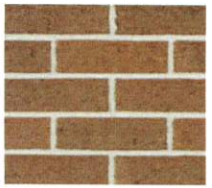

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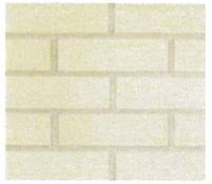

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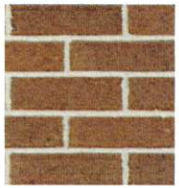

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The City of Cedar Hills

TO:	Planning Commission
FROM:	Chandler Goodwin
DATE:	September 23, 2025

SUBJECT:	Review/Recommendation and Public Hearing on the Water Conservation Element of the Cedar Hills General Plan
APPLICANT PRESENTATION:	
STAFF PRESENTATION:	Chandler Goodwin, City Manager/Planner

BACKGROUND AND FINDINGS:

State Requirements: Utah law now requires cities to plan for how various land uses impact water consumption and to develop strategies for water conservation. This is particularly critical given Utah's status as both one of the fastest-growing and driest states in the nation.

Cedar Hills Context: The document addresses a unique situation - while Utah overall expects dramatic population growth (doubling by 2065), Cedar Hills actually projects minimal growth (only 16% household increase by 2060) and has seen population decline from about 10,546 in 2018 to approximately 9,500 currently.

The plan includes several essential elements:

Water System Profile - Details the dual system (culinary and pressurized irrigation), water sources, storage capacity, and infrastructure

Demand Projections - Uses Equivalent Residential Connections (ERCs) to standardize water use measurements

Conservation Strategies - Both existing measures and future plans

Regional Collaboration - Required coordination with state agencies and neighboring communities

Implementation Framework - Specific goals, policies, and measurable actions

Comprehensive data analysis using the 2019 engineering study as baseline

Clear conservation goals (30% reduction by 2027)

Practical measures like secondary water metering and tiered rate structures

Recognition of outdoor irrigation as primary conservation target

PREVIOUS LEGISLATIVE ACTION:

N/A

FISCAL IMPACT:

N/A

SUPPORTING DOCUMENTS:

Draft Water Conservation General Plan

RECOMMENDATION:

Staff recommends that the Planning Commission review, make recommendations to the City Council for adoption of the Water Conservation Element of the General Plan

MOTION:

To recommend/not recommend the Water Conservation Element of the Cedar Hills General Plan to the City Council, with the following modifications -{LIST ANY CHANGES NECESSARY FOR APPROVAL}

CEDAR HILLS WATER USE AND PRESERVATION ELEMENT

Adopted November 2025

INTRODUCTION

Utah is among the fastest growing states in the nation; however, Utah is also among the driest states in the nation. It is expected that the population of Utah will double by 2065. This growth in population will be accompanied by an increased demand in water resources, stretching a finite water supply to meet the needs of a growing state. While Cedar Hills is only projecting marginal growth compared to neighboring communities experience rapid growth, it is still important to plan for water conservation and the promotion of responsible uses of existing water resources.

Water conservation is a regional issue. As we draw water from the same lakes, reservoirs, aquifers, and streams, cities must each do their part to ensure that current water supply can be allocated to meet future demands. In 2022 and 2023 the Utah State Legislature adopted S.B. 110 and S.B. 76 respectively, which required water as part of the general plan and to plan for how various land uses impact water consumption. As a bedroom community, Cedar Hills is composed of primarily single-family residential homes; these homes are built on lots of varying sizes, but mostly between 10,000-20,000 square feet. Most homes include private yard spaces, and in the case of the various HOA's include common areas. These yard spaces and common areas include large areas of grass and other water-intensive landscaping. Cedar Hills experienced rapid growth between 1995-2007, and since that time has experienced only marginal growth. Due to its location, Cedar Hills does not have new development opportunities, and what land remains to be developed is situated on hillsides in areas with steep slopes. It is expected that between 2018 and 2060, Cedar Hills will only increase the number of households by 16%.

In 2019, Cedar Hills engaged Bowen Collins & Associates, an engineering firm, to create the "Supply, Demand, and Water Rights Master Plan & 40-Year Supply Plan". The main goal of this study was to determine if the City has the volume and type of water rights needed to meet its long-term development plans. This plan projected a conservative estimate of future water needs for both culinary and pressurized irrigation. From the conclusions of this study, "the existing source supplies are presently sufficient to meet existing and build-out culinary production requirements during normal years." Regarding pressurized irrigation, the study found that, "reliable source supply is presently sufficient to meet existing [pressurized irrigation] production requirements." However, the study does identify potential deficiencies that could be expected during a drought year of up to 862 ac-ft/year. For this reason, it will be necessary for Cedar Hills to develop a drought contingency plan that allocates a reduced amount of water on a per user basis in order to adjust consumption to available supply. Additionally, the study showed that with growth, the current water supply was sufficient to meet expected demand for both the culinary and pressurized irrigation systems. Because Cedar Hills' population has decreased in the time since the study was performed, there is even more capacity than projected. For purposes of

this report, the findings from the study will be shown and then compared to data gathered in the years since the study was completed; findings will be drawn from a comparison of the 2019 data with current data and trends.

CEDAR HILLS WATER PROFILE

WATER SYSTEM BASICS

By law, water in Utah belongs to the public and the right to divert water and decide how it is used is determined by the State. Each year, more than five million acre-feet of water is diverted from Utah's natural water systems and delivered to agricultural, residential, commercial, and industrial users. Of that, over 80% is consumed by agricultural uses with the remaining being distributed among the other users.

The Cedar Hills water delivery system consists of two different systems, the culinary water and the pressurized irrigation (sometimes referred to as the secondary water). A community water delivery system typically consists of water sources, storage facilities, and a distribution system within the service area. While both the culinary and pressurized irrigation systems would be considered community water delivery systems, each serves a unique purpose for residents in Cedar Hills. See appendix A for the Water Service Area Boundaries map for both the culinary and PI systems.

A water right is permission from the state to divert and beneficially use a certain amount of water. The water right will identify that the water may be drawn from different sources and at what times during the year the water right may be diverted for beneficial use.

Total Water Assets

Water Right/Source	Annual Volume (ac/ft)
Total Groundwater Rights	2,301
Subtotal Water Rights	**2,301**
Pleasant Grove Irr. Co.	701
C.U.P.	710
American Fork Connection	100
Total Potential Water Assets	113
Subtotal Other Water Assets	**1,511**
Total Water Assets	**3,811**

Table 1- Total Water Assets

Water Sources – Where does the water come from?

The City obtains its water from a combination of groundwater sources, surface sources, and other water providers through water rights and other contractual agreements. The City operates three wells to access its groundwater rights. Surface water is obtained from the

Central Utah Water Conservancy District's Central Utah Project (CUP) and Pleasant Grove Irrigation Company. In addition to those sources, water is also obtained from a culinary interconnection with American Fork City.

The culinary water system services Cedar Hills residents with potable water year-round, also identified as groundwater rights. Water is pumped into the culinary system from three sources:

- **Harvey Well** – A culinary well that was originally an irrigation well. First developed in 1967, Cedar Hills became the owner when the owner developed the surrounding land. The City converted the well to a culinary well. Harvey Well was refurbished between 2023 and 2024. The improvements deepened the well, added a chlorination system, and a backup generator. The improvements allow the Harvey Well to meet culinary water demand for Cedar Hills.

- **Cottonwood Well** – Cottonwood Well was developed in 2006 as a redundant culinary water source. As development and demand have increased, the Cottonwood Well has become an essential source of water for Cedar Hills for both the culinary and pressurized irrigation systems. The Cottonwood Well was developed in a way that allows the City to use it to feed directly into the pressurized irrigation system.

- **American Fork Connection** – Cedar Hills maintains a connection to the American Fork water system and can pump water into the Cedar Hills culinary system as needed. This connection has no set contractual amount of water that can be taken each year. Between 2017 and 2024, the average amount of water used from this connection was 169 ac-ft. To be conservative and avoid overdependence on this source, it is assumed that the City could rely on 100 ac-ft/year from the American Fork Connection. Although American Fork City should theoretically be able to reliably provide 100% of the exchange water, this reduction provides a conservative reliability buffer for Cedar Hills. Cedar Hills typically only relies on this connection for continued service if either the Harvey Well or Cottonwood Well are unavailable.

The pressurized irrigation system services Cedar Hills residents from April to October. Water is sourced into the pressurized irrigation from the following sources:

- **Canyon Well** – Cedar Hills maintains a well that services the pressurized irrigation system. The well is located near the mouth of American Fork Canyon on the Cedar Hills Golf Course.

- **American Fork Canyon** – Cedar Hills owns water shares in the local irrigation companies (Pleasant Grove and American Fork) and diverts a portion of water from the American Fork River into the PI system.

- **Central Utah Project** – Cedar Hills owns water shares controlled by the Central Utah Project. These water shares come from the lake and dam system developed over the years by the Bureau of Reclamation. Cedar Hills has two separate access points to CUP water that can then be pumped into the PI system.

Water Storage

The culinary water system has two storage tanks to meet indoor water demand and meet the necessary requirements for fire flow in the event of an emergency. The two tanks can store up to 2.5 million gallons of water. Additionally, one of the tanks can be overflowed into a pressurized irrigation tank.

The pressurized irrigation system has only one storage tank which stores two million gallons of water. Additionally, ponds 10, 12, and 17 on the golf course are also part of the pressurized irrigation system and serve as holding ponds. Pond 18 on the golf course, while PI water, is used exclusively to irrigate the Cedar Hills Golf Course.

Equivalent Residential Connection

Cedar Hills measures water use on an equivalent residential connections (ERC) basis. The ERC calculation provides a standardized unit of measurement that converts all water users (residential, commercial, institutional) into equivalent residential homes. This methodology allows Cedar Hills to project future water demands based on equivalent residential units rather than trying to forecast complex commercial and institutional usage patterns separately. The approach is both practical and conservative, providing a reliable foundation for long-term water supply planning.

The basic formula for calculating ERCs is as follows:

- **Determine residential baseline**: Calculate average water use per actual residential connection. 2018 culinary water sales to residential customers total 547.8 ac-ft, with 2,482 residential connections, equals an average residential use of .22 ac-ft/year per connection.
- **Apply to all users**: Divide total water use by all customer types by this residential baseline. Total water sold to all customers (residential, institutional, commercial) totaled 686.6. ac-ft.
- **Result**: Total ERCs representing the equivalent of that many residential homes. Total water sold, 686.6 ac-ft/.22 ac-ft residential connection equivalent equals 3,111 ERCs for 2018.

PROJECTION OF WATER DEMAND

The 2019 Supply, Demand, and Water Rights Master Plan study estimated population growth, projecting that the population would increase from 10,546 in 2018 to 10,808 in 2025. In the six years since the study was completed, the population of Cedar Hills has fallen to an approximate 9,500. While previous studies showed that Cedar Hills would experience a slow and continual growth, the opposite has held true. As families have aged, households in Cedar Hills have become smaller, leading to a decrease in population. Even though the population of Cedar Hills continues to decline, there is the chance for small development to occur. It is expected that between now and 2060, Cedar Hills could grow by 16%. This growth represents approximately 250 single-family homes, or an estimated 500 additional ERCs. Current zoning limits areas of development to single-family homes of varying lot sizes, typically between .25 and .3 acres in size. Additionally, the projected additional ERCs includes what limited infill development is left within Cedar Hills. With this potential for growth and a population projection of 11,900 by 2060, Cedar Hills can plan for current and future water needs.

Existing and Projected Culinary Demand

Culinary Water Use Projections

Year	ERCs	Culinary Water Production (ac-ft/year)
2019	3188	881
2020	3264	902
2025	3484	963
2030	3501	967
2040	3537	977
2050	3572	987
2060	3608	997

Table 2- Culinary water use based on projected ERUs

The 2019 study concluded that, "the City's overall annual reliable water supply (3,106 ac-ft) is approximately 81% of the existing City's overall annual theoretical water assets (3,811 ac-ft). Understanding the annual reliable water supply, the study further concludes, "the existing source supplies are presently sufficient to meet existing and build-out culinary production requirement during normal years. For a better understanding of the reliable culinary and pressurized irrigation source calculation, see Appendix C. Of the 3,811 ac-ft of total water assets, 2,301 represent groundwater well rights, with another 100 ac-ft of culinary water from the American Fork Connection. These rights primarily serve the culinary needs of the City, with the remainder being allocated to pressurized irrigation use. Of those 2,401 ac-ft of groundwater rights, 780 were allocated towards culinary water production. With conservation measures and the decrease in population, this number had fallen to 770 in 2024. By 2060, assuming that the population reaches 11,900 and indoor

water use remains the same, Cedar Hills can anticipate allocating 997 ac-ft to culinary water production to meet demand, servicing a projected 3,608 ERCs; this would leave 1,404 ac-ft of groundwater assets to be distributed in the pressurized irrigation system as shown in Tables 2 and 3.

	Volume (ac-ft/year)	
Category	**2024**	**2060**
Total Culinary Reliable Yield	2,401	2,401
Culinary Production Requirements	770	997
Production Surplus	1,631	1,404

Table 3- Comparison of Culinary Projected Production Requirements to Reliable Source Yield

Existing and Projected Pressurized Irrigation Demand

Using the same methodology as the culinary system, Cedar Hills can project demand for pressurized irrigation water. In 2018, Cedar Hills had 3,111 ERCs that used 2,562 ac-ft of pressurized irrigation water. Extrapolating for growth, the 2019 Supply, Demand, and Water Rights Master Plan projected 3,608 ERCs in 2060 which would require 2,971 ac-ft of water for service.

The PI system has an existing surplus of an estimated 306 ac-ft/year during a normal year. At build-out, there will be a PI system water deficit of an estimated 157 ac-ft/year during a normal year; this deficit will be addressed through conservation measures. This 157 ac-ft/year deficit was projected prior to Cedar Hills installation of secondary meters on all end-user connections. A study conducted by Bowen, Collins & Associates for the State of Utah Division of Water Resources in 2018 found that water application rates per irrigated acre along the Wasatch Front is about 5.1 ac-ft/year for unmetered systems. When meters are installed, the study found that this rate fell to 3.4 ac-ft/year, a reduction of 33%. For purposes of planning, approximately a 27% reduction of PI water use was used in the 2019 study was used. Since at the time of the 2019 study, nearly all the City's pressurized irrigation connections were unmetered, a water savings equivalent to the 33% reduction in use for metered connections along the Wasatch Front seems achievable.

The 2019 study showed that by 2060, the pressurized irrigation production requirements would be 2,971 ac-ft without conservation measures (see Table 4). As conservation measures have been, and continue to be implemented, namely metering secondary water connections and a tiered rate structure for use, it is expected that by 2060, the actual pressurized irrigation production requirements will be 2,228 ac-ft, a savings of 743 ac-ft/year. As the tiered rate structure has only recently been implemented, it is too early to report on the effect it has had on conservation in the community.

PRESSURIZED IRRIGATION WATER USE PROJECTIONS

YEAR	ERC's	PI Water Production (ac-ft/year)	PI Water Production (ac-ft/year) 25%Conservation
2016	3095	2475	1856
2017	3089	2302	1727
2018	3111	2562	1922
2019	3188	2625	1969
2020	3215	2688	2016
2021	3288	2099	1574
2022	3342	1922	1441
2023	3346	1884	1413
2024	3348	2110	1583
2030	3501	2884	2163
2040	3537	2913	2185
2050	3572	2942	2207
2060	3608	2971	2228

Table 4 – Pressurized Irrigation Water Use Projections; source 2019 Supply, Demand and Water Rights Master Plan & 40 Year Supply Plan, Bowen Collins and Associates.

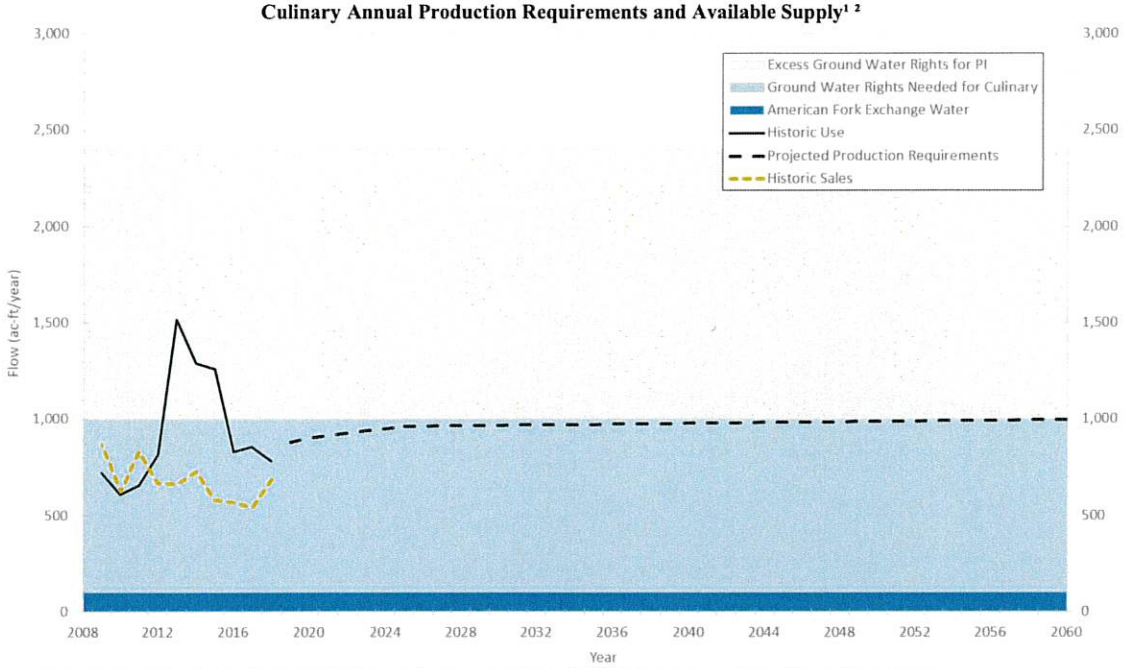
Per Capita Water Usage

Per capita usage represents the average daily water consumption per person across all uses, serving as a standardized metric for water suppliers to measure consumption over any given amount of time. This measurement helps identify conservation opportunities, monitor the effectiveness of conservation programs, and enable meaningful comparisons between different water supply systems.

In 2024, all water used by Cedar Hills culinary water system (approximately 770 ac-ft/year) can be divided by the total number of residents in 2024 (approximately 9,643), this number when divided by 365 gives a daily culinary water consumption of 71 gallons per person per day (GPCD). When irrigation water use is added to the formula (approximately 2,110 ac-ft/year), the daily consumption rises to 267 GPCD. The Utah Division of Water Resources for 2019 reported an per capita water use average throughout the State of 223 GPCD[1]. The average per capita use in Utah has been declining as conservation efforts have been implemented, in 2005 the average use 258 GPCD. However, Cedar Hills still has a daily consumption higher than the State average. To compare the annual water supply for the City with the predicted annual system production requirements at build-out, see Figures ES-1 and ES-2 below. As further conservation efforts take hold within Cedar Hills, it is expected that the daily consumption of 267 GPCD will fall. If the City sees outdoor water usage drop by 33% as a result of secondary water metering and implementing a tiered rate structure, then the per capita use could expect to decline to 201 GPCD.

[1] https://water.utah.gov/latest-water-use-numbers-posted-to-revamped-open-water-data-website/

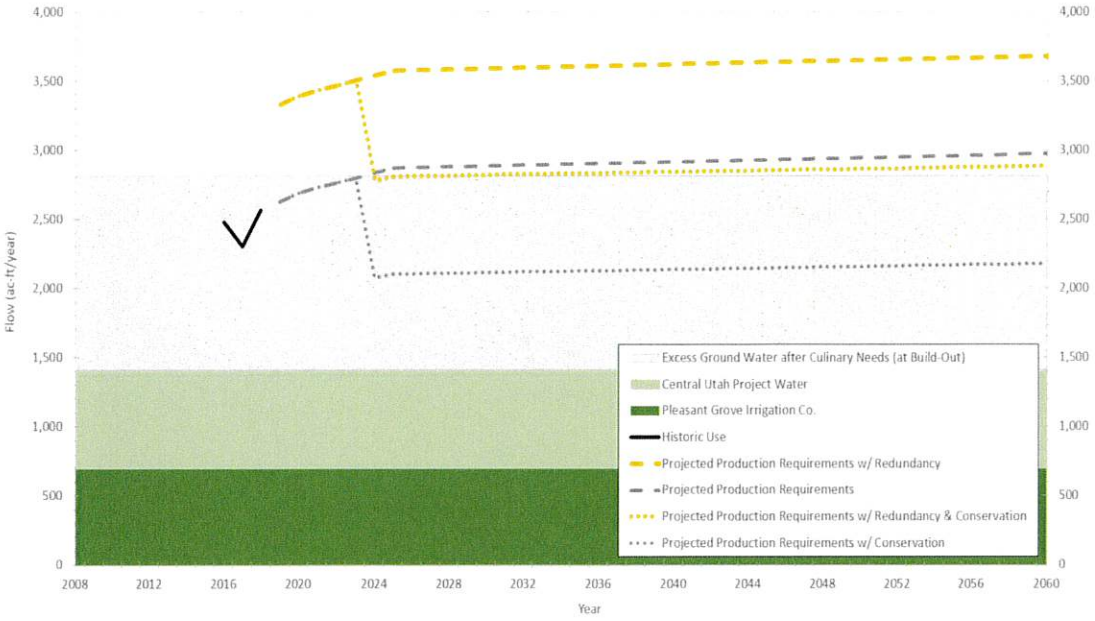
Figure ES-1
Culinary Annual Production Requirements and Available Supply[1] [2]



[1]No water use data available for the American Fork connection during 2009-2012. The actual total water production may be higher than shown.
[2]City personnel indicated that the Cottonwood Well production data was erroneous during 2013-2015. Actual water production may be lower than shown.

News

Figure ES-2
Pressure Irrigation Annual Production Requirements and Available Supply



Methods for Reducing Water Demand and Per Capita Water Use for Existing Development

Cedar Hills is a bedroom community consisting primarily of single-family homes on lots between a tenth of an acre to a third of an acre. There are other larger lots and townhome properties that are part of the community, but the majority of families live in single-family homes. Any conservation effort needs to primarily address outdoor water consumption. As discussed above, the City has installed secondary water meters on all end users of the pressurized irrigation system and implemented a tiered water rate structure. These efforts are expected to result in significant water savings each year as outdoor water use declines. Other methods for reducing the per capita water consumption for existing development are as follows:

- Cedar Hills no longer requires park strips as part of the development of a public rights-of-way. Existing park strips can be converted through the, 'flip the strip' program.
- Cedar Hills has implemented a smart irrigation controller policy, that advertises the benefits of installing smart irrigation controllers as a way to reduce pressurized irrigation consumption.
- The City has adopted landscaping standards in the commercial zone that promote and in some cases require the installation of drought tolerant vegetation.
- Code has been adopted that promotes the conversion of non-functional grass areas (less than eight feet in width) to xeriscape or localscape areas.
- Other landscaping requirements have been implemented, prohibiting the installation of grass on steep slopes, park strips, or narrow pathways.

Outdoor Practices to Promote Conservation

- Use the City's pressurized irrigation system for landscaping, if available.
- Water landscape only as much as required by the type of landscape, weather patterns in the area, including reducing the watering times in spring and fall.
- Do not water on windy and/or rainy days.
- Do not water during the hours of 10:00 AM and 6:00 PM.
- Sweep sidewalks and driveways instead of using the hose to clean them.
- Wash your car from a bucket of soapy water and rinse while parked on or near the grass or landscape so that all the water running off goes to beneficial use.
- Check for and repair leaks in all pipes, valves, secondary faucets, and hose bibs. Verify there are not leaks by turning everything off and checking your water meter and valves to see if it is still running. Some underground leaks may be difficult to locate as they may not manifest on the surface.
- Adjust and repair sprinkler heads to maintain proper pray patterns and eliminate waste.
- Periodically check and adjust timers on sprinkler systems. Install a smart irrigation control that automatically adjusts and delays watering based on seasonality and weather.

- Use mulch around trees and shrubs, as well as in your garden to retain as much moisture as possible. Areas with drip systems will use much less water, particularly during hot, dry and windy conditions.
- Cut your lawn at the highest setting on your mower and all other landscaped areas free of weeds to reduce overall water needs of your yard. Discourage water fountains and encourage low water landscaping at interchanges, planting strips and similar locations throughout the City.

Indoor Practices to Promote Conservation

- Do not use your toilet as a wastebasket. Put all items such as tissues, wrappers, diapers, and cigarette butts in the trash can.
- Check the toilet for leaks. Is the water level too high? Put a few drops of food coloring in the tank; if the bowl water becomes colored without flushing, there is a leak.
- If you do not have a low-volume flush toilet, put a plastic bottle full of sand and water to reduce the amount of water used per flush.
- Take short showers with the water turned up only as much as necessary. Turn the shower off while soaping up or shampooing. Install low flow showerheads and other flow restriction devices.
- Do not let the water run while shaving or brushing your teeth. Fill the sink or a glass instead.
- When doing laundry, make sure you always wash a full load or adjust the water level appropriately.
- Repair any leaks found within the household; even a minor slow-drip can waste up to 15-20 gallons per day.
- Know where your main shut-off valve is and make sure that it works. Shutting the water off yourself when a pipe breaks or a leak occurs will not only save water, but also minimize damage to property.
- Plug the sink when rinsing vegetables, dishes, or anything else; use only a sink full of water instead of continually running water down the drain.

Methods for Reducing Water Demand and Per Capita Water Use for Future Development

As noted earlier, Cedar Hills has very limited future development. New construction opportunities are limited as available land has been developed. Despite this, there is the expectation that approximately two hundred new homes could be constructed in Cedar Hills in the coming years. As new development occurs, existing conservation measures will become ever more important. Landscaped areas will be designed with metering in mind, and developers and landowners will look to find ways to conserve.

While the option for new development is limited, in the coming forty years, there will be opportunities for redevelopment. As neighborhoods age and redevelopment becomes a viable option, the standards established today will help guide development in a way that recognizes the importance of water conservation. In planning for future conservation, Cedar Hills plans to do the following:

- Provide educational materials to residents about the efficient culinary and pressurized irrigation water use.
- Regularly adjust culinary and pressurized irrigation water rates.
- Install secondary water meters an all new connections, both residential, institutional, and commercial.
- Develop a water shortage plan that reduces the amount of water allocated to each parcel in times of high or severe drought or if a water source becomes unavailable.

Water Education Program

For water conservation goals to be met, it is essential that pressurized irrigation become the focus of water conservation. The city provides communication in the form of mailer, weekly emails, newsletters, social media posts, and website updates to help keep residents informed on what they can do to reduce their water consumption. Additionally, Cedar Hills created a 'water calculator' that helps residents plan for how much water from the City's water share portfolio has been allocated to their property. The calculator shows residents how much water they have been assigned on a monthly basis, and shows them how much they should be watering each month through the summer. Finally, the calculator will give residents an expectation of their water bill should they use more than their allotment.

Additionally, information is shared on reducing culinary water waste. This information includes helping residents understand how much water a running faucet, leaking toilet, or broken water heater can waste. The information also helps resident identify these problems within their own homes and make changes.

Water Rate Structure

Designing an appropriate rate structure is a complex task. Cedar Hills engages with engineering firm in a process that matches the operational and maintenance costs associated with the water systems, plans for upcoming water capital projects, and balances the economic, political, and social conditions in which the city provides the service. The cost of delivering the service must be continually evaluated and understood. Each water system has unique assets, limitations, and needs; based on these characteristics, and past capital and operation/maintenance costs, the revenue requirements to operate the system can be determined.

Cedar Hills works with professional groups to routinely study and adjust rate structures for both the culinary and pressurized irrigation systems. As part of those studies several factors come under consideration: revenue, rate stability, equity, affordability, conservation, and debt service requirements to name a few. Based on these factors, a rate structure is proposed to the City Council for possible adoption.

Secondary Meter Installation

Cedar Hills has installed a secondary meter on all end users. This system will provide live reads to residents and alert them to high water use, possible leaks, and link to other city resources. As these meters have only recently been installed, it is unknown what water savings there will be. However, it is anticipated that the expected conservation will be

similar to other communities along the Wasatch Front, and the City will see a reduction in water use equivalent to 20-33% of total outdoor water use.

Water Contingency Plan

While the City has discussed the need to develop a new water shortage plan to implement in the case of heavy or severe drought, or if a water source fails. This plan will need to be developed by working with professional engineering groups that can help to design a plan that can be implemented during times of emergency. The water shortage plan could evaluate a few different measures that could be implemented in times of emergency, such as a reduction in the allocation for each lot, limit days and times when watering may occur, and a more stringent rate structure.

Modifications That Can Be Made to Cedar Hills Government Operations to Reduce and Eliminate Wasteful Water Practices

While current efforts are expected to reduce residential water consumption, the City needs to continue to pursue efforts to reduce municipal consumption. Efforts that the City can explore and possibly implement are as follows:

- The City owns and maintains a network of parks and trails throughout the community, totaling approximately 50 acres. This land includes grass playing fields, flower beds, and other park amenities such playgrounds, pavilions, seating areas, and parking areas. In order to conserve water, the City is installing, and will continue to install, smart irrigation controllers that will skip watering cycles when weather data indicates expected precipitation or high winds.
- The Cedar Hills Golf Club is a 18-hole golf course, that includes 100 acres of irrigated land. The irrigation infrastructure is twenty-five years old and in need of replacement. As part of the replacement, the City will upgrade the irrigation piping throughout the course, installing new sprinkler heads that will be more efficient with the water needs of the course.
- The Cedar Hills Golf Club is also part of the overall secondary water infrastructure for the City. This infrastructure includes multiple holding ponds that serve as storage areas for PI water. These holding ponds have liners that are in need of replacement. The City will replace the liners in these ponds, thereby reducing the amount of water lost to percolation into the ground.
- The City will continue to perform maintenance on critical pieces of the pressurized irrigation system in order to reduce the likelihood of failures that can cause leaks. This includes transmission line replacement, pump, motor, and variable frequency drive maintenance. These components of the PI system are integral to the delivery of water to the end-user, and need to be maintained so that efficient operation can continue. This also includes the continued deployment of alert technology to quickly identify water leaks and inform users (including the City) of high usage.
- There are other areas throughout Cedar Hills that are owned and maintained by the City, this includes park strips, open spaces, and other areas that may be watered through the irrigation system. The City evaluates these areas for conversion to

landscaping that is drought tolerant, and can be watered through drip systems. This will prevent overspray and waste from watering non-functional turf.

- Finally, the City will Continue to evaluate Cedar Hills City Code for requirements that don't encourage the conservation of water. These could be landscape requirements for residential, commercial, or institutional users. The City will also promote the use of xeriscaping and localscaping as ways to reduce consumption. As Cedar Hills continues to implement policies that promote and encourage the installation of sustainable landscaping, it is expected that this will lead to further reductions in water use throughout the community.

As a community, Cedar Hills aims to find ways to achieve these conservation goals while remaining a well-maintained beautiful community. The City recognizes that even though Cedar Hills is nearly built-out, water use challenges are both a local and regional issue that requires commitment from each community to achieve the State's conservation goals. By continuing to make water conservation a priority for the community, Cedar Hills will be able to assist in the preservation of water assets, including contributing to local efforts to preserve the aquifer, the preservation of Utah Lake, and the health of the Great Salt Lake.

WATER USE AND PRESERVATION: GOALS, POLICIES, AND IMPLEMENTATION

GOAL 1: Develop a clear, achievable plan for managing Cedar Hills' water resources, rights, infrastructure, and systems both now and in the future.

- POLICY 1.1: Conduct a review of the "Supply, Demand, and Water Rights Master Plan & 40-Year Supply Plan" every five to seven years
    - Implementation measure: Review the conclusions and recommendations from previous plans, implement as necessary.
    - Implementation measure: Conduct periodic reviews of the City's water rights portfolios; show beneficial use for each water right as needed.
- POLICY 1.2: Develop a capital infrastructure plan for the culinary system, including wells, transmission lines, pumps, tanks, and all other infrastructure.
    - Implementation measure: Conduct periodic rate studies to plan for financing of future infrastructure projects, adjust rates to maintain a fund balance that allows for repair and maintenance of water infrastructure.
    - Implementation measure: Develop comprehensive maintenance plans that details maintenance work on infrastructure, thereby prolonging the useful life of capital assets.
- POLICY 1.3: Develop a capital infrastructure plan for the irrigation systems, including wells, transmission lines, pumps, tanks, and all other infrastructure.
    - Implementation measure: Conduct periodic rate studies to plan for financing of future infrastructure projects, adjust rates to maintain a fund balance that allows for repair and maintenance of water infrastructure.
    - Implementation measure: Develop comprehensive maintenance plans that details maintenance work on infrastructure, thereby prolonging the useful life of capital assets.

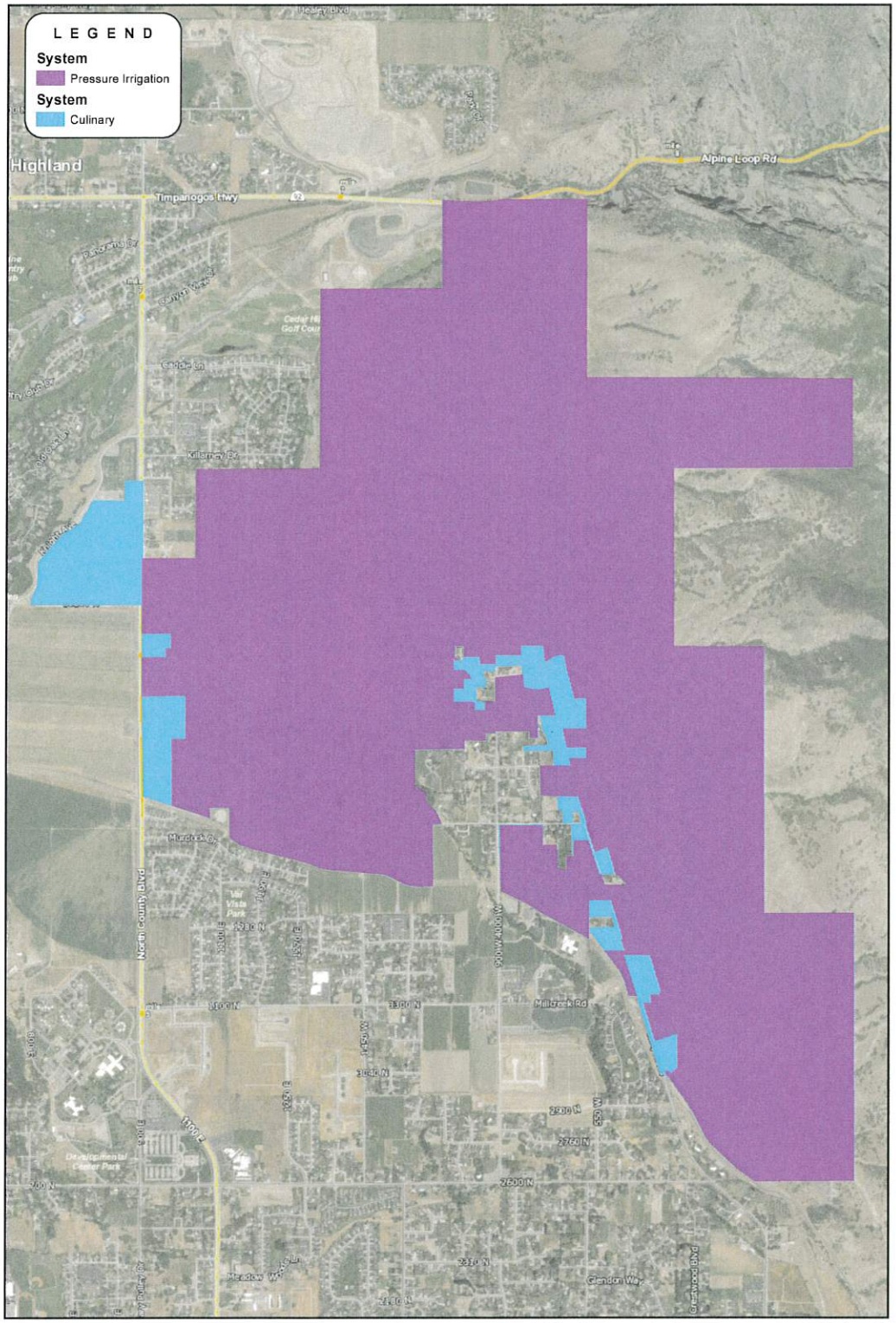
Goal 2: Adopt and promote water management practices that meet community needs and eliminate water waste.

- POLICY 2.1: Cedar Hills will strive to be a leader in water conservation by implementing regional practices that promote conservation.
    - Implementation measure: Periodically review City properties, determine which properties can be localscaped or altered in a way that conserves water yet maintains aesthetics and the intended use of the land.
    - Implementation measure: Install smart irrigation controllers on all City owned and maintained properties.
- POLICY 2.2: Promote conservation at the Cedar Hills Golf Course, recognizing the balance between maintaining a desirable course, and promoting conservation.
    - Implementation measure: Install new irrigation system that will allow for more efficient watering.
    - Implementation measure: Identify leaks or line breaks in a timely manner to prevent the unnecessary loss of water.
- POLICY 2.3: Continue to educate residents on best practices to encourage conservation.
    - Implementation measure: Use City resources, newsletters, websites, emails, to educate residents on best practices to conserve culinary water through efficient indoor use.
    - Implementation measure: Use City resources, newsletters, websites, emails, to educate residents on best practices to conserve irrigation water through efficient outdoor use.

Goal 3: Put into practice the ideas and recommendations from the Cedar Hills Water Conservation Plan.

- POLICY 3.1: Coordinate with local groups to promote local conservation efforts.
    - Implementation measure: Work with NUCAC (North Utah County Aquifer Council) on aquifer regeneration efforts.
    - Implementation measure: Evaluate, and when applicable, adopt standards promoted by regional groups that conserve water. Establish landscaping standards through City Code that ensures a beautiful community, yet still promotes the conservation of water.
- POLICY 3.2: Maintain or upgrade existing water system infrastructure to be more efficient.
    - Implementation measure: Install systems and infrastructure throughout the community that can alert the City to possible leaks, prevent conveyance loss, or increase efficiencies of the delivery systems.
    - Implementation measure: Perform timely maintenance on various components of water systems (i.e. clean water tanks, rebuild motors, clean pressure reduction valves, etc) to minimize replacement costs and be more efficient with allocated funds.
    - Implementation measure: Conduct periodic water audits in both culinary and pressurized irrigation systems to identify leaks.

Appendix A – Service Area Map



Appendix B – Cedar Hills Water Rights

Water Right Number	Owner	Most Recent Change App. No.(s)	Point of Diversion	Status	Water Use Classification	Current Use	Original Priority Date	Diverson (cfs)	Diversion (ac-ft/year)
55-595	City of Cedar Hills	a34958	Cottonwood Well, Canyon Well, Harvey Well	Approved	Municipal	Culinary/Irrigation	10/9/1951		1.478
55-712	City of Cedar Hills	a31336	Cottonwood Well, Canyon Well, 9900 N Well (Proposed), Harvey Well	Approved	Municipal	Culinary/Irrigation	9/24/1954		693.61
55-721	Town of Cedar Hills	a12378	4 Am. Fork Wells	Certificated	Municipal (American Fork and Cedar Hills)	Culinary/Irrigation	10/31/1977	3.63	858.00
55-1783	MJG Holdings LLC & City of Cedar Hills	a41603	Cottonwood Well, Canyon Well, Harvey Well	Approved	Municipal	Culinary/Irrigation	1/1/1922	0.11	30.89
55-12764							9/1/1934		
55-12765							6/1/1918		
55-12766							10/1/1934		
55-9323	Town of Cedar Hills	a31335	Cottonwood Well, Canyon Well, 9900 N Well (Proposed), Harvey Well	Approved	Municipal	Culinary/Irrigation	6/18/1957		29.76
55-9499	Town of Cedar Hills & East Jordan Irrigation Company	a24195	Harvey Well, + 8 Am. Fork Wells	Approved	Municipal	Culinary	1/1/1877		203.28
55-9500	Town of Cedar Hills & South Jordan Canal Company	a24196	Harvey Well, + 8 Am. Fork Wells	Approved	Municipal	Culinary	1/1/1870		58.92
55-12180	City of Cedar Hills & Utah Lake Distributing Co.	c4065	Canyon Well	Unknown	Municipal	Irrigation	10/27/1908		91.98
55-12423	City of Cedar Hills & East Jordan Irrigation Co.	a35913	Cottonwood Well, Canyon Well, Harvey Well	Approved	Municipal	Culinary/Irrigation	6/16/1969		50.08
55-12542	City of Cedar Hills	n/a	Adams Well, Peterson Well, Atwood Well	Certificated	Domestic (121 EDUs), Irrigation (31.84)	Unknown	11/12/1954		181.81
55-12696	Amsource Cedar Hills LLC & City of Cedar Hills	a41201	Cottonwood Well, Canyon Well, Harvey	Approved	Municipal	Culinary/Irrigation	1/1/1915	0.0153	5.35

			Well						
55-12920	Margaret Olena Robins Family Trust & City of Cedar Hills	a44089	Cottonwood Well, Canyon Well, Harvey Well	Approved	Municipal	Culinary/Irrigation	1/1/1922		7.68
55-12929	Rockworks Land LLC & City of Cedar Hills	a44090	Cottonwood Well, Canyon Well, Harvey Well	Approved	Municipal	Culinary/Irrigation	2/19/1946		39.32
55-12930							8/1/1934		
55-12931							8/1/1934		
55-12985	City of Cedar Hills	a44538	Cottonwood Well, Canyon Well, Harvey Well	Approved	Municipal	Culinary/Irrigation	8/24/1960	0.157	47.00
55-1550	Hartwell Louis, Marica Ann Livingston Martin J. and Karla J. Van Hemert	n/a	Third Party 2" Well	Unknown	Domestic, Stock	Domestic, Stock	7/1/1907	0.145	1.49
								Total (ac-ft)	2,300.64

Other Water Assets

Source	# of Shares	Share Value (AC-FT/Share)	Total Volume (AC-FT)
Pleasant Grove Irrigation Co. (PI only)	420.59	1.666	700.70
Central Utah W.C.D. (PI only)	1	710	710.00
American Fork Connection (culinary only)	n/a	n/a	100.00
		Total	**1510.70**

Potential Water Assets (Designated for Pressurized Irrigation)

Source	# of Shares	Share Value (AC-FT/Share)	Total Volume (AC-FT)
Welby Jacob Water Users Co.	10	1.0	10.00
East Jordan Irrigation Co.*	12	4.84	58.08
American Fork Irrigation Co.	22.36	2.0	44.72
		Total	**112.80**

2,300.6	Total Groundwater Rights
1,510.7	Total Other Water Assets
3,811.3	Total Usable Water Assets
112.8	Total Potential Water Assets

* 4.84 acft/yr share amount assumed based on other East. Jordan shares

Appendix C – Understanding Reliable Water Supply Estimates

Reliable Production by Source

For purposes of evaluating annual reliable production capacity, City sources can be grouped into three categories: wells, mountain runoff, and the American Fork Connection. The following sections address the reliable production capacity of each source category:

Wells

The City's ability to draw on groundwater could be limited not only by water rights but also by well capacity. Annual production design capacity for the three wells (Cottonwood, Harvey, and Canyon) would total 5,807 ac-ft/yr. Since the wells cannot be expected to always operate at 100% of design capacity, a lower yield is recommended for planning purposes to account for two limitations: potential mechanical failure at one or more wells and lower demands during the winter months during which full well production is not needed in the system.

- Potential mechanical failure: The volume at 80% capacity (a typical conservatively reliable reduction) would decrease production to 4,645 ac-ft/yr.
- Demand limitations: To calculate each well's maximum yield for the estimated demand patterns, the historic percentage of the year that each well was running had to be identified. The Cottonwood Well pumps to both the culinary and the PI systems; the Canyon Well is exclusively operated for the PI system. Because these two wells can produce PI water, they can't be run year-round as there is no demand in the winter.

Based on date, the Canyon Well's maximum yield based on estimated demand patterns was 42% of the well's design capacity. The Harvey Well was assumed to be 100% of the design capacity since it can operate year-round. The Cottonwood Well was estimated to be 50% of the design capacity since it is split between PI and culinary. The maximum yield for estimated demand patterns shows the three wells can produce 3,545 ac-ft/year.

Since there is only 2,300 ac-ft/year of groundwater that can be used by the City, the wells could have approximately a 35% reduction in capacity and still use all the available water rights. Thus, for all evaluated scenarios, the City's wells have ample annual capacity as compared to the existing groundwater rights. Therefore, all 2,300 ac-ft of water rights are determined to be reliable for planning purposes.

Mountain Runoff

This category includes surface water sources from CUP and the PG Irr. Co. The quantity of reliability of surface runoff is much more closely tied to external factors, such as drought, than underground water sources. Therefore, this category is more prone to reliability issues.

During drought conditions, both CUP and PG Irr. Co. can proportionally reduce the annual volume delivered to the City based on the amount of flow they are able to physically obtain from runoff. Based on previous studies, it was conservatively estimated that these two sources would have a reliable yield of 50% of their maximum annual amount of water. Of the 1,411 ac-ft/year allocated to the City, only 705 ac-ft/year can be determined as reliable. This is based off of engineering judgement and past experience with the historical reliability of similar mountain runoff sources.

American Fork Connection

The American Fork connection has no set contractual amount of water that can be taken each year. To be conservative and avoid overdependence on this source, it was assumed that the City could rely on 100 ac-ft/year from the American Fork connection.

Reliable Culinary & Pressurized Irrigation Source Production

Source	Reliable Yield (ac-ft/yr)
Wells	2,301
Mountain runoff (CUP & PGIC)	705
American Fork connection	100
Total Reliable Water Yield	**3,106**