

Drinking Water Utility

February 15, 2023

Purpose

The purpose of this paper is to provide a background of Steamboat Springs' drinking water utility to the Brown Ranch Annexation Committee to frame and inform annexation negotiations pertaining to Brown Ranch.

Decision Points

Within the context of Brown Ranch annexation negotiations, the community and the community's elected and appointed representatives have several key decisions to make, including:

1. Is there a reliable and secure supply of water to serve the proposed annexation?
2. What infrastructure improvements are necessary to serve the proposed annexation?
3. When do infrastructure improvements need to be completed to serve additional development within the proposed annexation?
4. What do those infrastructure improvements cost, and what is the most equitable way to distribute those costs?
5. What water conservation and efficiency measures should be required?

Section 1: Water System Background

The community of Steamboat Springs is divided into two separate water districts: the City district, which lies primarily north and west of Fish Creek, and the Mt. Werner Water and Sanitation District, which lies primarily south of Fish Creek. The infrastructure of these two districts' water systems is intertwined. Two reservoirs - Fish Creek Reservoir and Long Lake - store water from high elevation tributaries that feed Fish Creek, which in turn supplies the Fish Creek Filtration Plant. The Yampa River feeds a set of infiltration galleries (commonly known as wellfields) located near the southern edge of the city, which then supply the Yampa Wellfield Treatment Plant. These two water plants are operated by the Mt. Werner Water and Sanitation District and serve both the City's water district and Mt. Werner's water district.

Additionally, the Steamboat II Metro District, which provides drinking water to the Steamboat II, Silver Spur, and Heritage Park neighborhoods as well as the Sleeping Giant School, is fed in part from the City's water system. The Steamboat II Metro District has both its own wellfield and treatment plant on the banks of the Yampa River, but they also purchase up to 150,000 gallons per day from the City plus whatever water is necessary to serve the Sleeping Giant School. This water is delivered from the City to the Metro District via a 12" transmission main that traverses the Brown Ranch property.

From both a capacity and a resiliency standpoint, the two existing water plants at Fish Creek and the Yampa River are adequate to serve the buildout of the existing city limits plus the allotment that the Steamboat II Metro District currently receives. The Fish Creek Filtration Plant has room to grow by another 60%, and a multi-year effort to expand the capacity of the Yampa River system is slated for completion in late 2023.

Financially, the City operates the water system under the Utility Fund, which is a TABOR enterprise fund set up for the specific purpose of providing drinking water and wastewater utilities for the Steamboat Springs utility district. As a TABOR enterprise fund, the Utility Fund is separated from the General Fund and it does not receive any tax revenue. All revenue for the Utility Fund is derived from customer water and sewer bills and from plant investment fees (commonly referred to as tap fees), and the fund may only obtain 10% of its annual revenue from other state and local sources.

The City performs water and wastewater rate studies every three years. These rate studies inform what the customer bills and tap fees must be to meet expenses, and Council is asked to adjust rates per recommendations provided in the rate studies. Our next rate study is slated for 2024.

Section 2: Current Demand

Water demand in Steamboat Springs fluctuates greatly depending upon the time of year and the level of precipitation received. The City monitors and studies these trends in extensive detail on an ongoing basis. Additionally, water supply and infrastructure master plans are updated every ten years. Our current water supply master plan was completed in 2019, and our current water infrastructure master plan was completed in 2020. Taken together, these master plans confirm what staff is observing in current trends and provides a solid basis for future efforts. Here are some water demand figures derived from those studies:

Definition: Equivalent Residential Unit (EQR) is a typical 2,500 square-foot single family residence with 3 bedrooms and 2 bathrooms.

- a. An EQR in Steamboat Springs uses an average of 200 gallons per day. This is a year-round average, where summer use will be greater and winter use will be less.
- b. An EQR in Steamboat Springs uses 480 gallons per day on a maximum-use day in the summer when irrigating outdoor landscaping.
- c. Approximately 30% to 32% of the City's treated water goes to outdoor irrigation.
- d. The City district uses approximately 1.1 million gallons per day on a peak winter day.
- e. The City district uses approximately 3.1 million gallons per day on a peak summer day.
- f. The City district uses 1,450 to 1,600 acre-feet per year (an acre-foot is the volume of water equivalent to one acre in area by one foot deep).

Section 3: Water System Capacity

There are five primary thresholds that determine water system capacity:

1. Water rights
2. Raw water availability
3. Treatment capacity
4. Delivery capacity
5. Redundancy

As is commonly known, there is more demand for water than there is supply in Colorado and throughout the West. As populations grow and droughts persist, pressure on water supplies continues to increase. As a Western Slope community within the Colorado River basin, Steamboat Springs is actively engaged in various water supply planning efforts. In 2019, the City adopted an update to its Water Supply Master Plan in coordination with Mt Werner Water.

The City has a robust water rights portfolio that contains a myriad of water rights. The City holds water rights on a number of lakes, streams, springs and ditches that are decreed for different uses. However, these water rights are not always available at the right time and at the right location to serve their intended purpose. In addition, the City has the ability to contract in the future for water supplies from Stagecoach reservoir, which is currently underutilized. Thus, extensive work must be performed behind the scenes to make sure that physical water exists where and when people need it.

The Water Supply Master Plan identifies vulnerabilities in the community's water supply including population growth, a Colorado River Compact call, extended drought, and wildfire in the Fish Creek basin. Scientists predict more frequent and severe drought conditions in northwest Colorado and throughout the West as a result of a changing climate, resulting in earlier spring runoff and declining streamflows throughout the Yampa and Colorado river basins. A wildfire within the Fish Creek drainage basin has the potential to impact water quality, increase flooding and erosion, and affect reservoir and water treatment operations. Resiliency and redundancy become highly important under these scenarios.

It is important to note that not all of the City's discussions regarding water supply are limited to drinking water. A significant portion of our water rights portfolio is dedicated to other efforts, such as maintaining flows within the Yampa River, snowmaking on Howelsen Hill, and irrigating our parks, medians, and Haymaker Golf Course with untreated (raw) water, etc. These amenities are very important to our community, and extensive effort is dedicated to making water available for them.

Our drinking water system was sized to serve the existing City limits. Modest expansions of the City limits are viable, depending upon where the expansions take place. Large scale expansions of the City limits, however, will require significant financial investment to make development a reality.

The City's water rights and raw water availability are sufficient to fully supply both treatment plants. The City's capacity within both treatment plants is provided below (please note that Mt. Werner also has capacity within these plants, but to minimize confusion, Mt. Werner's allotted capacities are not included below). It should always be assumed that there is a 3% to 5% reduction between the stated or design treatment capacity and the actual output of treated water due to inherent treatment process inefficiencies. It should also be assumed that some level of plant maintenance is occurring which may reduce the output further. Thus, a sustainable capacity figure for each plant is also provided, which is generally 10% less than the maximum capacity.

Fish Creek Filtration Plant:

- Total existing capacity: 4.5 million gallons per day
- Total sustainable capacity: 4.05 million gallons per day
- The City has room to grow this plant by another 1.5 million gallons per day maximum, 1.35 million gallons per day sustainable

Yampa Wellfield Treatment Plant:

- Total existing capacity: 800,000 gallons per day
- Total additional future capacity (slated for completion in late 2023): 967,680 gallons per day

- Total future sustainable capacity upon completion of 2023 improvements: 1.59 million gallons per day

Upon completion of the City's 2023 Yampa Wellfield improvements, the City's total combined maximum treatment capacity will be 6.27 million gallons per day, with **5.64 million gallons per day** considered sustainable. Future expansion of the Fish Creek Filtration Plant will increase the City's treatment capacity to 7.8 million gallons per day, with 7.02 million gallons per day considered sustainable.

In the context of a west Steamboat annexation, it is not treatment capacity, but rather delivery capacity and supply redundancy that become the limiting factors for development. Treatment and supply redundancy limits growth both within the City's current district and any westward expansion to approximately **1,700 EQRs**. The delivery capacity of the distribution system to the west Steamboat area is limited to approximately **800 EQRs** above and beyond buildout of existing city limits. The answer to both the supply redundancy limitation and the delivery limitation is a third water supply source, which would come from the Elk River.

Section 4: The Role of Conservation

Any discussion on future water needs must start with conservation and efficiency. Sustainable water conservation and water efficient development allows for more time and greater flexibility to grow into water supplies, make infrastructure improvements, and increase resilience to future uncertainties.

Today, an EQR in Steamboat Springs uses 200 gallons per day on average over the course of a year. Thirty years ago, 350 gallons per day per EQR was more typical. In the City's utility district, water consumption peaked in 2007, and there has been a 5% reduction in peak water use over the last ten years, even as the population continues to grow. The biggest driver of peak water demand is outdoor water use. To decrease the demand on the drinking water system from outdoor watering, the City has expended significant effort over the last 10-15 years to convert most of our large parks from treated water sources to raw water (untreated) sources. Additionally, the City's water main replacement program and mandatory year-round watering schedule have helped reduce water use and water waste.

In 2020, City Council adopted a Water Conservation Plan jointly prepared by the City of Steamboat Springs and Mt Werner Water. The plan was developed in accordance with state statute and guidelines for a municipal water efficiency plan and is required to be updated every seven years. The Water Conservation Plan is available on the City's website here: <https://steamboatsprings.net/DocumentCenter/View/21906/2020-Steamboat-Springs-Water-Conservation-Plan>.

The purpose of the plan is to achieve lasting, long-term improvements in water efficiency and to reduce overall water demands and it sets a goal of saving treated water by 10% in 10 years. This is one of seven overall goals adopted in the plan. Leading by example, reducing costs, ensuring a reliable water supply, and integrating water conservation with land use planning are additional goals that should help guide the decision-making for Brown Ranch.

The Water Conservation Plan recognizes that the existing Community Development Code (CDC) requires updating to address water conservation and efficiency goals and recommends CDC updates to landscaping standards, infill and development standards, subdivision regulations, and annexation policy to incorporate water conservation. These intended updates have not yet been adopted as code. However, the annexation agreement provides an opportunity to require development in the west Steamboat area meet the adopted water efficiency goals and recommendations.

We can anticipate additional guidance, funding, incentives, and mandates from the state related to water conservation and land use development. The 2023 Colorado Water Plan identifies land use and water planning integration and water efficiency and conservation programs as key tools for action. Recent updates to the Colorado Housing Finance Authority Housing Tax Credit Qualified Allocation Plan requires new projects apply waterwise landscaping and limit non-functional turf. The most impactful driver of water conservation in west Steamboat will be the extent of irrigated landscapes.

Section 5: History of Efforts Related to West Steamboat Development

Over the last 30 years, the City of Steamboat Springs has invested a substantial amount of time and money into water supply and water infrastructure in an effort to make annexation in the west Steamboat area feasible and to prevent “buy and dry” of the surrounding agricultural lands.

As early as 1993, the City was actively master planning for provision of municipal water service to the west Steamboat area. While efforts to serve this area were well underway for many years prior to 1993, for the sake of this discussion our summary begins in 1993.

In April of 1994, a treated water master plan was finalized and published. This master plan built on the work of previous editions of the master plan. Of note in the 1994 version was the establishment of a plan for creating the “West Valley Low Zone”, which is the water pressure zone that would serve an eventual west Steamboat development. The backbone of this West Valley Low Zone was a proposed 12” water main that would run from the western edge of the City limits near West Acres Mobile Home Park to the Steamboat II Metro District. The plan also proposed a future 1-million gallon tank located near the airport, a new 1-million gallon tank north of Steamboat II which would be shared by the City and Steamboat II, a new pumping station, and several pressure regulating valves. Together, once constructed these improvements would provide the basic infrastructure for water provision for west Steamboat.

Between 1993 and 1994, the City constructed the 12” water main from West Acres Mobile Home Park to the Steamboat II Metro District. This water main has been in use ever since, as it delivers 150,000+ gallons per day from the City’s distribution system to Steamboat II. Costs for this main were approximately \$410,000 at the time, not including easements.

The 1-million gallon water tank that is shared with Steamboat II was constructed in 2001. The City’s costs for this project were approximately \$300,000. Records indicate that \$125,000 of this \$300,000 may have come from State Energy and Mineral Impact Assistance grant funding.

In 2010, in conjunction with the City’s construction of Gloria Gossard Parkway, the City constructed a 2,040 linear-foot water main under the parkway from Downhill Drive to the 12”

water main that runs westward to Steamboat II. Previously, the flow through the Steamboat II water main was limited by the 8" diameter water main running within West Acres Mobile Home Park, thus this new main under Gossard Parkway was constructed in an effort to deliver greater flows to the west Steamboat area. The City's costs of the water main under Gossard Parkway totaled \$170,000.

Work pertaining to the City's water rights portfolio as it relates directly to serving the west Steamboat area has been ongoing for 24 years. In 1999, City Council signed Resolution number 99-49, which authorized and directed staff to take all steps necessary to perfect the City's water right on the Elk River. It is difficult to estimate how much money has been spent on legal fees and engineering analyses for this effort, but it is likely greater than \$250,000.

Section 6: Elk River Water Supply

As the community grows west, the water distribution system becomes the limiting factor in our ability to deliver water to new homes. A third water source located somewhere on the west side of town will eventually be needed for both capacity and redundancy.

The current water distribution system has the ability to serve buildout of the existing city limits plus an additional approximate 800 equivalent residential units (EQRs) west of the existing city boundaries.

For over two decades, the City has eyed the Elk River as the community's third water source. This would add capacity to our existing water system, and equally important, it would add supply resiliency to our water system. The intent is to build a three-legged stool of water supply for the community where if any one source is taken offline or compromised for whatever reason, the community could be fed by the other two sources. The need for this resiliency is driven primarily by the threat of wildfire in the Fish Creek drainage basin. Statistically speaking, it is a near certainty that eventually a wildfire will erupt in that basin, and when it does, we must be prepared by having redundant sources ready to go.

Substantial work has already been accomplished to someday make an Elk River water source a reality. In 1999, the City filed for an 8 cubic feet per second water right on the Elk River, with a diversion point for the water located where Routt County Road 44 crosses the river. In 2009, initial siting for the plant was completed in conjunction with a master plan. The initial siting places the treatment plant somewhere on or near Deer Mountain, north of Steamboat Springs Airport. In 2016, the City built a portion of the distribution system trunk line that will one day deliver water from the future plant to the West Area Water Tank. In 2020, construction of the West Area Water Tank commenced. This tank will eventually serve as the primary distribution system tank for the Elk River supply. Also in 2020, after many years of negotiations with Colorado Parks and Wildlife and Public Service Company, the City obtained a perpetual lease agreement for storage water out of Steamboat Lake. This effort "firmed" the water right obtained in 1999 and was likely our single biggest hurdle in making this source viable.

Future steps include the following:

1. Property and right-of-way acquisition: Property will have to be acquired for the treatment plant as well as right-of-way for supply and delivery pipelines.

2. Water quality sampling and testing: This is a preliminary step to treatment design where the raw (ie: untreated) water in the Elk River would be sampled and tested over the course of at least one calendar year to understand what treatment processes will be necessary.
3. Design: This step would involve the design of the new treatment facility including the treatment processes based on the water quality sampling, the raw water pump station, the water supply line necessary to deliver the raw water from the river to the plant, and a clearwell (ie: water tank) adjacent to the plant.
4. Permitting: Permitting would involve obtaining approval of the design from the Colorado Department of Public Health and Environment, obtaining land use approval from Routt County and obtaining building permit approval from the Routt County Building Department.
5. Financing: The plant would likely be financed by a loan, and that loan would likely come from the Colorado Water Resources and Power Development Authority. The loan would then be paid down through plant investment fees and customer bills. Under State TABOR restrictions, the expenses would not touch the General Fund.
6. Construction: This is likely a two-year construction project.

Many of these steps will run concurrently. That said, staff anticipates a minimum of five years from the start of water quality sampling to the completion of construction, with the largest variable being the property acquisition phase.

Construction costs for treatment plants have risen dramatically over the last two to three years due to a number of factors related to supply chains, construction demand, labor shortages, stimulus investment, general inflation, etc. As such, staff has updated conceptual cost estimates to reflect today's construction trends. For the purpose of creating conceptual estimates, 2028 has been used as the initial year of construction. Using inflationary assumptions for 2028 costs, staff estimates total costs to be somewhere between **\$40M and \$58M**, with one of the largest variables again being property acquisition. Annual operating and maintenance costs are estimated at **\$642k**. The cost of construction and the cost of ongoing operations make the plant cost-prohibitive until such time as the customer base increases via annexation.

Assuming that the Brown Ranch annexation is finalized, and that the first home is delivered in 2026, and growth within Brown Ranch occurs at an average rate of 200 EQRs per year, the Elk River treatment plant would have to be online by 2030. Staff considers this timeline to be aggressively conservative, so the 2030 target date could likely be pushed out several more years. That said, 2030 is a prudent target to aim for, should annexation occur. The next big step staff intends to focus on is the property acquisition phase.

Section 7: Legal Issues

Colorado Revised Statutes 29-20-301 to 306, enacted in 2008 by House Bill 1141, require local governments to determine whether proposed developments have adequate water supplies and require local governments to deny applications for development where there is not a demonstration of an adequate water supply. C.R.S. § 29-20-302(1) defines a water supply as adequate if it "will be sufficient for build-out of the proposed development in terms of quality, quantity, dependability, and availability to provide a supply of water for the type of development proposed and may include reasonable conservation measures and water demand management measures to account for hydrologic variability". The statutes provide local governments the sole discretion to determine

whether a water supply meets this definition of “adequate”, and when during a development process the adequacy determination is made.

In response to these State statutes, the City adopted the “Adequate Water Supply for Development Policy” (Revised Municipal Code Section 25-78). For the City to approve a development permit, requirements of the Adequate Water Supply for Development Policy must be satisfied. Please note that the requirements for the “Adequate Water Supply for Development Policy” do not have to be met prior to annexation, rather, they must be met prior to development permit.

The “Water Rights Dedication Policy” (Revised Municipal Code Section 25-77) was adopted by the City in conjunction with the “Adequate Water Supply for Development Policy”. In the Water Rights Dedication Policy, the City adopted a general policy of conditioning new water service from the City’s municipal water system upon either a dedication of water rights equal to 110% of the water rights necessary to serve the development, or a payment of cash in lieu of water rights by the development to be served, applicable to properties outside of the City’s service area. There is no state law mandating the City require dedication of water rights or payment in lieu of water rights. The implementation of the Water Rights Dedication Policy is subject to City Council’s sole discretion. To date, the City has not required any dedication of water rights or fee-in-lieu upon new developments within the city limits.

The legal issues that the Brown Ranch Annexation Committee should therefore consider can be synthesized into the following questions:

1. At what point in the development and annexation process should the “adequacy” determination be made?
2. In consideration of the City’s current and future water supplies, should the applicant be required to obtain water rights and dedicate those water rights to the City?
3. If the applicant is unable to obtain and grant water rights to the City, should the applicant be required to pay a fee in lieu of those water rights?

The discussion in section eight will hopefully assist the Committee in its consideration of these questions.

Section 8: Further Discussion on Decision Points

Near the beginning of this paper, staff offered the following items as major decisions that the community and the community’s elected representatives need to make in relation to the Brown Ranch annexation proposal. This paper will conclude with focused discussion on each decision point.

Is there a reliable and secure supply of water to serve the proposed annexation?

The Yampa Valley Housing Authority has hired Leonard Rice Engineers to produce a water demand report and has asked that the report be completed in advance of the April 12, 2023, BRAC meeting. Staff will review that report and compare the figures and assumptions used in that report to our master plans. At that point, staff will be equipped to render an opinion on whether Steamboat has a reliable and secure supply of water to serve the proposed annexation.

That said, with some of the preliminary figures that have already been developed, staff is reasonably confident at this time that between the City’s existing water rights portfolio and the City’s perpetual

water storage contract out of Steamboat Lake, the City does have a reliable and secure supply of water to serve the proposed annexation, of which full buildout would be contingent upon the construction of the Elk River water supply project.

Contingent upon the findings of the Water Demand Report, staff is reasonably confident that the City can make a determination that the proposed water supply will be adequate under C.R.S. § 29-20-301 to 306. It is worth reiterating that the Elk River water supply must be constructed for Brown Ranch to become a reality.

What infrastructure improvements are necessary to serve the proposed annexation?

For the purpose of this discussion, it is helpful to divide the infrastructure improvements into two major categories: onsite and offsite.

Onsite infrastructure includes the pipelines, regulating valves, and pump stations necessary to serve future developments within the Brown Ranch boundary. The City's Municipal Code, Community Development Code, and the Standard Specifications for Water and Wastewater Utilities will govern the parameters of this infrastructure, which will be reviewed in conjunction with future development permit applications. These documents place the burden of constructing onsite infrastructure on the developer. If a different arrangement is desired for Brown Ranch, that needs to be identified in the Annexation Agreement. However, if a different arrangement is not desired for Brown Ranch, the Annexation Agreement can be silent to this issue, thus allowing the Municipal Code, the Community Development Code, and the associated standards and specifications to govern.

Though staff does not see a need to modify existing regulations pertaining to water infrastructure development, staff would appreciate feedback on whether there is a desire to explore or modify existing regulations.

As for the offsite infrastructure, the City has already constructed much of the offsite infrastructure necessary to serve Brown Ranch, including the West Area Water Tank, the 12" transmission main, and one half of the 1MG Steamboat II Water Tank.

The primary piece of offsite infrastructure that still needs to be constructed is the Elk River water supply. This is a large project that would involve a raw water diversion, a pump station, a raw water pipeline, a treatment plant, an associated clearwell (ie: water tank), and treated water delivery pipelines from the plant to the future developments.

Also of primary importance is a redundant delivery pipeline from the City's existing distribution system to the Brown Ranch property. This project is already designed and will be constructed at the same time the US 40 West Multimodal Trail is built.

Finally, the other major piece of offsite infrastructure needed to serve Brown Ranch is a booster station located near the West Area Water Tank. Design is slated for 2024, and construction is slated for 2025.

When do infrastructure improvements need to be completed to serve additional development within the proposed annexation?

The Elk River supply must be constructed and online before the new EQR's in Brown Ranch exceed 800.

The delivery pipeline along US40 from Snow Bowl to Brown Ranch must be constructed and online prior to the first new EQR in Brown Ranch.

The booster station feeding the West Area Water Tank must be constructed and online prior to the first new EQR in Brown Ranch in order to provide adequate fire flow availability.

Onsite infrastructure must be constructed and online as development progresses, in accordance with the City's Municipal Code, Community Development Code, and the Standard Specifications for Water and Wastewater Utilities.

What do those infrastructure improvements cost, and what is the most equitable way to distribute those costs?

Elk River water supply: between \$40M and \$58M, with an estimated \$642k in annual operating costs

- See discussion below

Delivery pipeline along US40 from Snow Bowl to Brown Ranch: \$1M

- This project is currently 100% funded by the City

West Area Water Tank booster station: \$1.2M

- This project is currently 100% funded by the City

Onsite infrastructure: this estimate will be developed by the Brown Ranch consultant team.

- If existing development codes, regulations, and policies are followed, then all onsite infrastructure will be 100% funded by the developer.

Table 1: New Drinking Water Infrastructure Required

New Infrastructure	Timeline	Cost Estimate	Existing/Potential Funding Source
Booster station near West Area Water Tank	Prior to occupancy of any new EQRs	\$ 1.2 million	Funded: City of Steamboat Springs
Redundant delivery pipeline along US 40	Prior to occupancy of any new EQRs	\$1 million	Funded: City of Steamboat Springs
Elk River water supply treatment and offsite pump station and pipelines	Prior to exceeding 800 new EQRs	\$40-58 million	Potential: Loan paid off by enterprise fund ratepayers and tap fees; STR tax; grants
Brown Ranch onsite distribution pipelines and pump stations	As development progresses	unknown	Potential: developer funds; STR tax; grants

*Equivalent Residential Unit (EQR)

It will likely prove difficult to achieve consensus on how to equitably distribute costs for water infrastructure between existing City customers and Brown Ranch. This is because water systems are integrated, which means that, when done correctly, the individual components within a water system have multiple benefits to multiple areas of a district. For instance, we know that the Elk River supply must be constructed and online prior to the 800th EQR in Brown Ranch. We also know that if the City were to never grow westward beyond the existing city limits, then we would not likely construct the Elk River supply because it is cost-prohibitive, and expansion of our Fish Creek supply and our Yampa Wellfields supply could provide for both the quantity and redundancy needed to serve buildout of our existing city limits. But in a scenario where the Fish Creek supply is taken offline for any reason (for example, a wildfire) and the City was fed solely by the Yampa Wellfields, outdoor water use would have to be eliminated and any complications the Yampa Wellfields may suffer during a Fish Creek outage or a Colorado River Compact call would be disastrous for our community. Thus, an Elk River supply would have undeniable benefits for existing City customers, even if they don't currently need it.

Should annexation occur, our next rate study (slated for 2024) will include rate establishment to support financing for the Elk River supply. The project would almost certainly be funded by a loan from the Colorado Water Resources and Power Development Authority, which would then be paid down by a combination of monthly utility bills, tap fees, and potentially the STR tax. Staff will explore every grant opportunity available, but the potential contribution of grants towards this project should be considered modest, bordering on negligible, at best. TABOR restrictions prohibit property taxes funding water and wastewater infrastructure.

What water conservation and efficiency measures should be required?

The Brown Ranch planning process and Community Development Plan so far have demonstrated a commitment to long-term resiliency and sustainability, particularly as related to water resources. The development offers a unique opportunity to integrate water conservation into land use planning and affordable housing from the outset.

Many of the urban design principles of affordable housing align with those for water efficient land use and development, such as higher densities, compact or cluster development, smaller lots, mixed-use facilities, and multi-family housing. This alignment is primarily due to the lower percentage of lot area devoted to irrigated landscaping and lawns. Limiting large, privately-owned grass lawns is the single greatest means of achieving water conservation goals. There also are other elements of a model water efficient landscape code that can be incorporated into Brown Ranch, such as requiring drought tolerant species and water efficient irrigation practices.

Other potential requirements for water conservation and efficiency that could be considered as part of the annexation agreement include:

- A water conservation and efficiency plan outlining commitments
- Water budget agreement and monitoring plan
- Water-efficient building practices, such as low flow fixtures
- Site design that preserves areas important for water quantity (i.e, groundwater recharge areas) or quality (i.e., riparian buffers)
- Water reuse capabilities

These types of measures are consistent with the recommendations of the City's Water Conservation Plan. The plan sets an overall conservation goal of reducing treated water demand by 10% in 10 years (2030). Should Brown Ranch be annexed, the City's long-range water plans, such as the Water Conservation Plan will be applicable. The Annexation Committee should explore the recommendations of the plan as well as additional conservation measures.

The Water Conservation Plan and the City Municipal Code have a number of provisions that limit the use of treated water. Should Brown Ranch be annexed, it would automatically be subject to these same provisions. But as noted in the item above, the question the Annexation Committee should explore is whether additional limitations on the use of treated water are desired.