



EAST LARIMER COUNTY WATER DISTRICT 2024 Water Efficiency Plan

East Larimer County Water District

East Larimer County Water District
2024 Water Efficiency Plan

PREPARED FOR:



PREPARED BY:



OCTOBER 9, 2024

TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	1
1. INTRODUCTION	2
1.1 INTEGRATED PLANNING	2
2. PROFILE OF EXISTING WATER SUPPLY SYSTEM	3
2.1 WATER SUPPLY	4
2.1.1 ELCO'S RAW WATER SUPPLIES	5
2.1.2 NON-POTABLE LANDSCAPE IRRIGATION.....	6
2.1.3 TREATMENT CAPACITY	7
2.1.4 SUPPLY LIMITATIONS AND FUTURE NEEDS.....	7
3. WATER DEMANDS AND HISTORICAL DEMAND MANAGEMENT	8
3.1 SERVICE AREA CHARACTERISTICS	9
3.2 HISTORICAL WATER DEMANDS	10
3.3 ANNUAL WATER ALLOTMENT.....	14
3.4 SEASONAL AND PEAK DAY DEMANDS	16
3.5 SYSTEM NON-REVENUE WATER.....	16
3.6 PAST AND CURRENT DEMAND MANAGEMENT ACTIVITIES AND ESTIMATED WATER SAVINGS	17
3.8 DEMAND PROJECTIONS.....	19
3.8.1 BASELINE PROJECTION.....	20
3.8.2 ACTIVE CONSERVATION PROJECTION AND WATER EFFICIENCY GOALS.....	21
4. SELECTION OF WATER EFFICIENCY ACTIVITIES	21
4.1 SUMMARY OF THE SELECTION PROCESS.....	22
4.2 WATER EFFICIENCY ACTIVITIES.....	22
4.2.1 FOUNDATIONAL ACTIVITIES	23
4.2.2 TARGETED TECHNICAL ASSISTANCE AND INCENTIVES.....	27
4.2.3 ORDINANCES AND REGULATIONS.....	27
4.2.4 PUBLIC EDUCATION AND INFORMATION.....	27
5. IMPLEMENTATION AND MONITORING PLAN.....	28
5.1 IMPLEMENTATION PLAN.....	28
5.2 MONITORING AND EVALUATION	28
5.3 REVENUE STABILITY	29
6. PUBLIC REVIEW, ADOPTION, AND APPROVAL OF WATER EFFICIENCY PLAN	29
6.1 PUBLIC REVIEW	29
6.2 WATER EFFICIENCY PLAN ADOPTION.....	29
6.3 WATER EFFICIENCY PLAN APPROVAL.....	30
7. COMPLIANCE WITH STATE PLANNING REQUIREMENTS	30
7.1 ELCO WATER EFFICIENCY PLAN COMPLIANCE	31
8. REFERENCES	33

LIST OF TABLES

TABLE 1. ANNUAL BILLED CONSUMPTION.	12
TABLE 2. ESTIMATED ANNUAL INDOOR AND OUTDOOR CONSUMPTION.	14
TABLE 3. ESTIMATED 2017 – 2022 AVERAGE ANNUAL INDOOR AND OUTDOOR CONSUMPTION BY CUSTOMER CLASS.	14
TABLE 4. CURRENT SINGLE-FAMILY RESIDENTIAL ANNUAL WATER ALLOTMENT.	15
TABLE 5. ANNUAL AND DAILY POTABLE PRODUCTION AT SCFP.	16
TABLE 6. COMPARISON OF TREATED PRODUCTION AND TOTAL BILLED CONSUMPTION.	17
TABLE 7. PROJECTED AND ACTUAL 2017 THROUGH 2022 AVERAGE ANNUAL TREATED PRODUCTION.	18
TABLE 8. ESTIMATED 2017 THROUGH 2022 AVERAGE ANNUAL WATER SAVINGS FROM ACTIVE CONSERVATION.	18
TABLE 9. ESTIMATED HISTORICAL AND PROJECTED ELCO SERVICE AREA POPULATION.	20
TABLE 10. NEW AND UPDATED WATER EFFICIENCY ACTIVITIES AND WATER SAVINGS ESTIMATES.	23
TABLE 11. WATER RATES – MONTHLY BASE CHARGE, EFFECTIVE JANUARY 1, 2024.	25
TABLE 12. WATER RATES – BLOCK RATE STRUCTURE, EFFECTIVE JANUARY 1, 2024.	26
TABLE 13. WEP PROGRAM IMPLEMENTATION SCHEDULE.	28

LIST OF FIGURES

FIGURE 1. ELCO SERVICE AREA LOCATION MAP.	3
FIGURE 2. 2017 – 2022 AVERAGE ANNUAL BILLED CONSUMPTION BY CUSTOMER CLASS.	10
FIGURE 3. SYSTEM-WIDE ANNUAL BILLED CONSUMPTION EXCLUDING WHOLESALE.	11
FIGURE 4. ANNUAL WHOLESALE BILLED CONSUMPTION.	11
FIGURE 5. 2017 – 2022 AVERAGE MONTHLY BILLED CONSUMPTION BY CUSTOMER CLASS.	13
FIGURE 6. DEMAND PROJECTIONS.	19
FIGURE 7. AWWA M36 WATER AUDITS AND LOSS CONTROL CATEGORIES.	25

LIST OF APPENDICES

APPENDIX A PUBLIC REVIEW PROCESS	
APPENDIX B BOARD RESOLUTION ADOPTING THE WATER EFFICIENCY PLAN	
APPENDIX C CWCB PLAN APPROVAL	

LIST OF ABBREVIATIONS

AF	acre-feet
AF/yr	acre-feet per year
AMI	Advanced Metering Infrastructure
AWC	average winter consumption
C-BT	Colorado-Big Thompson
CII	Commercial, Industrial, and Institutional
CIL	cash-in-lieu of dedication of water rights
CIP	Capital Improvement Plan
C.R.S.	Colorado Revised Statutes
County	Larimer County
CWCB	Colorado Water Conservation Board
District	East Larimer County Water District
DWSP	Drought and Water Supply Plan
ELCO	East Larimer County Water District
FCLWD	Fort Collins-Loveland Water District
Fort Collins	City of Fort Collins
gpcd	gallons per capita per day
GMA	growth management area
HOA	homeowners association
IGA	intergovernmental agreement
kgal	1,000 gallons
MG	million gallons
MGD	million gallons per day
NPIC	North Poudre Irrigation Company
NRW	non-revenue water
NWCWD	North Weld County Water District
PIF	plant investment fee
Poudre River	Cache la Poudre River
PVP	Pleasant Valley Pipeline
RWR	raw water requirements
SCFP	Soldier Canyon Filter Plant
SCWTA	Soldier Canyon Water Treatment Authority
sq-ft	square feet
TDMP	Transmission and Distribution Master Plan
Timnath	Town of Timnath
Tri-Districts	East Larimer County Water District, North Weld County Water District, and Fort Collins-Loveland Water District, collectively
Wellington	Town of Wellington
WEP	water efficiency plan

ACKNOWLEDGMENTS

This East Larimer County Water District (ELCO) Water Efficiency Plan was prepared by ELEMENT Water Consulting, Inc. (ELEMENT) in close collaboration with East Larimer County Water District staff. The following individuals contributed to this plan.

ELEMENT STAFF:

Beorn Courtney, Senior Project Manager
Sophie Porcelli, Project Hydrologist
Brooke Ely, Staff Engineer

ELCO AND TRI-DISTRICTS STAFF:

Mike Scheid, ELCO General Manager
Melissa Tremelling, ELCO Administrative Manager
Richard Raines, Tri-Districts Water Resources Manager
Scott Dickmeyer, Tri-Districts Water Resources Engineer

ELCO BOARD:

Loren Maxey, Chair
Scott Baker, Treasurer
James Clay, Board Member
Joseph Fonfara, Board Member
Rodney Rice, Board Member

SUPPORTING CONSULTANT:

Chris Parton, HDR, Inc.

1. INTRODUCTION

East Larimer County Water District (ELCO) provides drinking water to homes and businesses located north and east of Fort Collins, Colorado. ELCO is a "covered entity"¹ as defined by Colorado Revised Statute (C.R.S.) 37-60-126. Covered entities are statutorily required to "develop, adopt, make publicly available, and implement a plan to encourage its domestic, commercial, industrial, and public facility customers to use water more efficiently." ELCO has had a water conservation program in place since 1996, prepared its first water efficiency plan (WEP) in 2007, and updated the WEP in 2016. This WEP update summarizes the District's previous water efficiency efforts and identifies water efficiency goals and activities to implement moving forward.

1.1 INTEGRATED PLANNING

ELCO uses multiple planning tools to holistically manage water resources and infrastructure, and plan for current and future conditions in the District's service area. These planning tools include, but are not limited to, the WEP, the Drought and Water Supply Plan (DWSP), the Transmission and Distribution Master Plan (TDMP), and the Capital Improvement Plan (CIP).

The purpose of the DWSP, which ELCO staff updated in 2023, is to assess ELCO's ability to meet customer water demands during droughts of different intensities and durations. The DWSP uses a future demand scenario of approximately 5,000 acre-feet per year (AF/yr) which was prepared through ELCO's participation in a joint Colorado State University and Colorado Water Conservation Board (CWCB) project that developed an assessment tool for characterizing and quantifying municipal water use in Colorado's Front Range. Some of the scenarios evaluated in the DWSP include a demand reduction of 5% from outdoor watering restrictions, which ELCO described as a conservative planning number. The DWSP concludes that ELCO's water supply could be vulnerable during long duration droughts comprised of years when the Cache la Poudre River (Poudre River) experiences drought conditions and the Colorado-Big Thompson Project (C-BT) quota declaration is simultaneously low due to Colorado River supply conditions. The DWSP identifies remedies to minimize ELCO's drought vulnerability which include converting water rights that ELCO has previously changed to allow municipal use, changing additional water rights that ELCO owns to allow municipal use, continuing to account for water supply vulnerability through ELCO's water dedication policy, increasing raw water storage, and continuing to focus on water demand management. The DWSP emphasizes the importance of water efficiency and conservation by stating "demand management will extend ELCO's water supplies during drought years with low C-BT quotas" and recognizes that demand reduction beyond the 5% that is included in some scenarios would require a longer-term demand reduction plan [1].

In 2023 the District contracted with HDR, Inc. to update an existing hydraulic model and create an updated TDMP for its water transmission and distribution system. The TDMP includes an evaluation of ELCO's existing and future water transmission and distribution system water needs, which ELCO will use to update its CIP. The TDMP does not address needs for potential future upgrades or expansion of the Soldier Canyon Filter Plant (SCFP). Titled 'Water Demand Projections', Chapter 2 of the TDMP includes analyses of ELCO's historical demands from 2017 through 2022 as well as projections of growth and future water demands

¹ Per C.R.S. 37-60-126, "Covered entity" means each municipality, agency, utility, including any privately owned utility, or other publicly owned entity with a legal obligation to supply, distribute, or otherwise provide water at retail to domestic, commercial, industrial, or public facility customers, and that has a total demand for such customers of two thousand acre-feet or more".

through 2045 [2]. To provide consistency between planning efforts, this WEP relies on the historical demand analysis and the assumptions regarding development patterns, population, and demand projections through 2045 that are described in the TDMP Chapter 2. As the TDMP was not yet finalized at the time of the preparation of this WEP, a draft version of the TDMP dated December 15, 2023 and updated on April 5, 2024 was relied upon for this report.

This WEP relies on information included in ELCO’s other planning efforts and is designed to support an integrated approach to comprehensive water resource management and planning. It provides an update of the 2016 WEP regarding new water data trends and the water efficiency activities that ELCO will implement moving forward. Water efficiency planning offers benefits to infrastructure planning through demand reduction, reducing or delaying the need for capital investment in water infrastructure, and offers benefits to water supply and drought planning by potentially reducing or delaying the need to acquire new water supplies.

2. PROFILE OF EXISTING WATER SUPPLY SYSTEM

ELCO provides potable water to homes and businesses within an approximately 53 square mile service area located north and east of the City of Fort Collins (Fort Collins), Colorado as shown in **Figure 1**. The District was created by court decree in 1962 after voters in Larimer and Weld Counties approved its formation. ELCO is a political subdivision of the State of Colorado and is governed and operated in accordance with the Colorado Special Districts Act by an elected five-member Board of Directors (Board). ELCO does not have land use authority.

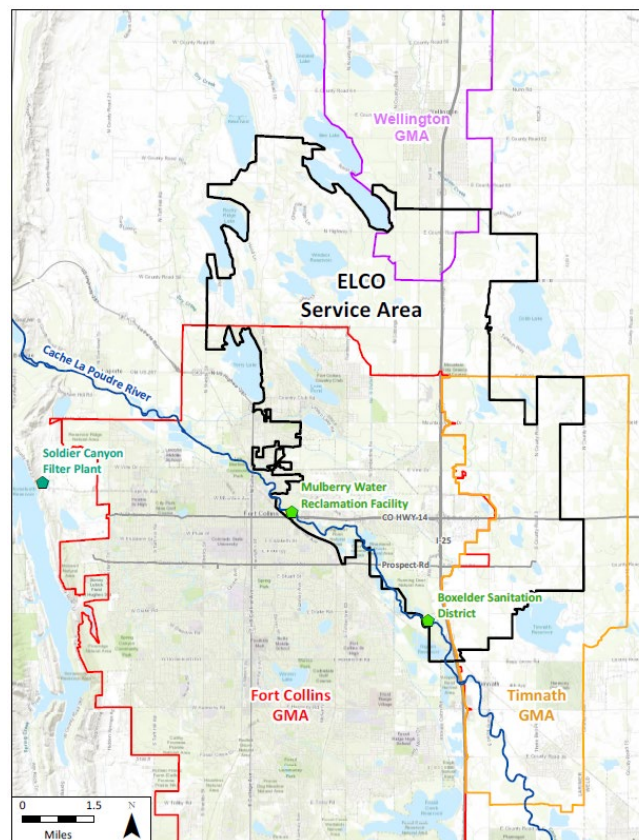


Figure 1. ELCO Service Area Location Map.

Until the mid-1990s, ELCO served primarily low-density rural subdivisions, dairies, farmsteads, mobile home parks, motels, rural residential acreages, industrial parks, and two small wholesale water suppliers. ELCO's residential customers were typically subdivisions approved by Larimer County (County) and located primarily along the Colorado Highway 14 corridor between Interstate 25 (I-25) and the eastern boundary of Fort Collins. Since around 1995, most of ELCO's new customers have been located in developments approved by Fort Collins and within the past six years, ELCO has started to provide water service to new residential developments located within the Town of Timnath (Timnath), most of which are located near Prospect Road east of I-25. Recent land use regulations adopted by Fort Collins and Timnath create very different types of developments from the County-approved developments historically served by ELCO. Approximately 63% of the District's service area is within the corporate boundaries of either Fort Collins or Timnath or within their respective Growth Management Areas (GMAs). The Fort Collins GMA was established by an agreement between Larimer County and Fort Collins in 1980 and updated in 2000. The two entities entered into an intergovernmental agreement (IGA) that required all land within the GMA to be annexed into Fort Collins before development or, if not eligible for annexation, developed under Fort Collins' density and service level standards and annexed as soon as it became eligible. Larimer County has also entered into IGAs with Timnath and the Town of Wellington (Wellington). Due to the land use regulations that are controlled by these other entities, development within the District's service area has and is projected to continue to increase in the density of residential dwelling units as well as the number of non-residential customers.

A portion of the treated water delivered to ELCO's customers is consumed and a portion is returned to the stream system as either sewered (i.e., wastewater) or non-sewered (i.e., outdoor uses, primarily for landscape irrigation) return flows. Wastewater collected from the District's customers is treated in one of the following ways: approximately 49% is treated by the Boxelder Sanitation District, approximately 25% is collected by the Cherry Hills Sanitation District and treated at the Mulberry Water Reclamation Facility, approximately 1% is treated by Fort Collins at the Mulberry Water Reclamation Facility, and approximately 25% is treated by private on-site wastewater treatment systems (i.e., septic systems). ELCO has the legal right, through the terms and conditions of a water court decree, to claim a portion of the sewered and non-sewered flows that return to the stream system. This water does not become available as a raw water supply to meet ELCO customer demands; rather, ELCO uses this water to help meet return flow obligations associated with changes of water rights.

2.1 WATER SUPPLY

ELCO and other water suppliers in the Fort Collins area have worked cooperatively to provide high quality and reliable water service to their customers by creating partnerships to jointly construct and operate a number of critical water facilities. ELCO has historically grown at a slower pace than other water providers in the area; therefore, it has historically funded projects several years before they might be required to meet the needs of the District. Funding improvements earlier than required is sometimes challenging for the District, but the ELCO Board recognizes the many benefits including lower unit costs through economies of scale, limiting disruption and environmental impacts within the community, improving redundancy and efficiencies, integrating operations with other suppliers, and fostering cooperation among participants.

ELCO historically relied upon C-BT units for the entirety of its water supply. However, the construction of the Pleasant Valley Pipeline (PVP) in 2004 provided the District with the ability to divert other supplies from the Poudre River. All of the water ELCO delivers to its customers is treated at the SCFP, which is a regional water treatment facility now owned by the Soldier Canyon Water Treatment Authority (SCWTA)

and governed by ELCO, Fort Collins-Loveland Water District (FCLWD), and North Weld County Water District (NWCWD), collectively referred to as the “Tri-Districts.” The Tri-Districts formed the SCWTA in 2017 under the provisions of C.R.S. 29-1-204.2 and the SCWTA has operated and maintained the SCFP since that time. Prior to creation of the SCWTA, the SCFP was operated under an amended IGA between the Tri-Districts. The IGA between the Tri-Districts that created the SCWTA specifies ownership percentages in the facility and water treatment capacity owned by each of the Tri-District entities and establishes the method of payment for capital improvements and treated water. A Board of Directors consisting of two members from each District governs operations of the SCWTA. Through connections with the Tri-Districts, SCWTA water is also supplied pursuant to water service agreements with the Towns of Windsor, Severance, Eaton, Ault, and Nunn. Each of the Tri-Districts also provides water service directly to residential and commercial developments located in the Town of Timnath. The District delivers water treated by SCFP through master meters to two wholesale customers: the Northern Colorado Water Association and the Sunset Water District.

2.1.1 ELCO’S RAW WATER SUPPLIES

The District’s current water rights portfolio is comprised largely of C-BT units, with other transmountain and Poudre River “native” rights becoming a significant component in more recent years. ELCO's two wholesale customers were required to transfer water rights to ELCO to satisfy the raw water demands associated with their treated deliveries. The total combined average yield of the District’s C-BT units and other decreed changed water rights that are used to provide water to the rest of ELCO’s customers is approximately 6,000 AF/yr with a dry-year yield of approximately 5,400 AF/yr [1]. Approximately 4,000 AF/yr, or 67%, of the average-year supply is provided by C-BT units, and the C-BT portion of the North Poudre Irrigation Company (NPIC) shares, with the remainder provided from changed water rights.

The most reliable and affordable source of water available to ELCO at the time it was created in 1962 was from the C-BT project. C-BT facilities divert water from the western slope of Colorado to the Front Range to supplement the region’s native water supply. It is the largest transmountain water diversion project in Colorado. It was constructed by the Bureau of Reclamation between 1938 and 1957 and delivers more than 200,000 acre-feet (AF) of supplemental water each year to northeastern Colorado for agricultural, municipal, and industrial uses [3].

In 1963, C-BT water could be purchased for \$100 per C-BT unit from farmers who felt they had more water than they could use. The price per C-BT unit fluctuates and has increased significantly compared to approximately \$26,000 per unit reported at the time the District’s prior WEP was completed in 2016. The unit price has been up to approximately \$70,000 per unit in recent years. In February 2024, the ELCO Board set the District’s price for cash-in-lieu of dedication of water rights (CIL) at \$55,000 per unit based on recent sales. Each year, the Northern Water Board of Directors sets a C-BT project water delivery quota that defines the amount of C-BT water made available to C-BT allottees. Quotas are expressed as a percentage of 310,000 AF, the amount of water the C-BT Project was designed to deliver each year [4]. The quota normally ranges between 50 and 100 percent and many years, the C-BT project final quota is 70 percent, meaning each allottee receives 0.7 AF/yr per unit, which at the District’s current CIL rate of \$55,000 per unit equates to approximately \$79,000/AF/yr. C-BT water can still be purchased from farmers or other private owners; however, high cost and reduced availability are limiting factors. ELCO currently owns 3,441 C-BT Units.

In anticipation of the decrease in availability of C-BT water supplies, ELCO committed funds in 1997 to study the feasibility of a pipeline that would deliver Poudre River water to the SCFP. The pipeline became

known as the PVP and eventually grew into a partnership between the Cities of Greeley and Fort Collins and the Tri-Districts. Construction on the pipeline began in April 2003 and was completed in the spring 2004. Completion of the PVP allowed ELCO, for the first time since its creation in 1962, to obtain water from the Poudre River.

ELCO has acquired very little water from the C-BT system since completion of the PVP and instead has secured senior agricultural water rights that have been or will be the subject of change-of-use applications in water court. ELCO obtains its new raw water supplies through a water dedication process that is documented in the Raw Water Requirements and Plant Investment Fee Schedule [5] and requires a change of water right application to municipal use. Since ELCO made the decision to diversify its water supply portfolio and invest in the PVP, ELCO has participated in 18 water court applications in Division 1 Water Court.

By contract, ELCO's use of the PVP is limited to seven months (April through October). Supplies not needed to meet District demands on a given day are diverted for storage or exchanged for water deliverable at a different location or time. The District has minimal access to carryover storage from one year to the next for non-C-BT water rights.

ELCO does not currently have a non-potable reuse program, and all reuse of its water rights are by exchange. ELCO is evaluating opportunities to develop additional storage to maximize the amount of reuse by exchange. The SCFP is equipped to recycle filter backwash water – equal to approximately 5% of the total water production, which is delivered to the three owners of the filter plant.

2.1.2 NON-POTABLE LANDSCAPE IRRIGATION

Approximately 20% of ELCO customers in residential developments have access to a non-potable landscape irrigation supply. This number is an indication of the transition from irrigated agriculture that historically characterized much of the District's service area. Large estate lots served by ELCO were usually created by subdividing farms that were irrigated with shares in the NPIC or high-capacity irrigation wells. It was standard practice in the past to transfer those water rights to individuals or a homeowner's association to provide raw water for landscape irrigation. Many individual lot owners in areas of high groundwater have also drilled their own wells.

ELCO incentivizes developers and new customers to employ the use of non-potable irrigation supplies and systems through its raw water dedication requirements and development fees [5]. ELCO's customers with non-potable systems utilize wells to divert groundwater and/or ditches to divert surface water for landscape irrigation purposes, which reduces the need for treated (potable) water deliveries from SCFP.

Prior to granting reduced raw water dedication and plant investment fee requirements for property owners or developments that propose to use a non-potable supply for landscape irrigation, ELCO's Water Resource staff conduct a thorough review of the proposed non-potable supply and projected irrigation demand. This review holds the proposed non-potable supply to the same standard as if the landscape irrigation needs were to be met from potable water delivered by ELCO. If ELCO staff conclude that the supply will meet the projected irrigation demand, ELCO staff make a recommendation to the ELCO Board to grant reduced raw water dedication requirements. Upon Board approval, a water service agreement is made between ELCO and the developer including terms and requirements describing the developer and metro district or homeowners' association (HOA) obligations as well as the reduced raw water dedication and plant investment fee requirements for the development.

2.1.3 TREATMENT CAPACITY

Deliveries to ELCO's customers, including wholesale connections with Northern Colorado Water Association and Sunset Water District, are treated at the SCFP under the SCWTA described above. The SCFP was originally constructed in 1961 and is considered a conventional treatment plant in that it uses coagulation, flocculation, filtration, and disinfection [2]. The plant has been expanded in various phases to its current nominal capacity of 60 million gallons per day (MGD), which is the combined total available for the Tri-Districts and all wholesale connections.

2.1.4 SUPPLY LIMITATIONS AND FUTURE NEEDS

ELCO has been experiencing tremendous growth since the mid-1990s and this trend is expected to continue. Rapid growth was experienced between 2016 and 2022 with 1,272 taps being added over those 6 years. The TDMP projects that the residential population² will increase from approximately 23,000 in 2020 to over 65,000 in 2045, at which time the TDMP projects that the District's service area will only be 60% built-out [2]. The anticipated rate of growth, particularly without ELCO having land use authority, creates challenges in projecting ELCO's long-term water demands. ELCO will need to regularly update demand projections as Fort Collins, Timnath, and Wellington determine the type of development that will be allowed within their adopted GMAs that are served by ELCO.

In response to studies performed by Fort Collins and inclusion of the District-served areas in the Timnath and Wellington GMAs, ELCO has implemented policies and programs necessary to accommodate the significant rate of growth projected within its service area. ELCO does not actively pursue the acquisition of water rights. Rather, ELCO's policy requires developers to provide water supplies sufficient to meet each new development's future demand prior to obtaining a new water service connection. ELCO's tap fee schedule, titled "Raw Water Requirements and Plant Investment Fee (PIF) Schedule" describes the process [5]. The document states that property owners or developers requesting water service to subdivisions or developments with more than one lot have the option to pay the District CIL to satisfy up to 30% of the raw water requirements (RWR). The remaining 70% of the RWR must be satisfied through the dedication of water rights. In subdivisions or developments with no more than one lot, CIL can be paid to satisfy the RWR. When permitted, payment of CIL is based on ELCO's CIL price which is currently based on a unit of C-BT water valued at \$55,000. In no event shall any owner or developer have the right to pay CIL for more than 50 acre-foot equivalents of C-BT water for any one real estate development. The option to pay CIL to satisfy RWRs has not been used to date by any developer and may no longer be available once supplies set aside by ELCO for this effort are exhausted.

ELCO maintains a list of water rights that the District will currently consider for dedication and an estimated AF per share credit factor for each type of water right, which is based on the historical physical and legal yield of the supply after it has been changed for municipal uses in water court. If ELCO accepts a water right for dedication, the water right must then go through the ELCO Water Bank process which results in the issuance of Water Bank raw water credits based on the yield of the particular supply. The Water Bank program facilitates water transfers between willing water right sellers and buyers. ELCO is not involved in the monetary transaction between the buyer and the seller. The seller (i.e., "dedicator") may deposit water rights into the ELCO Water Bank. The depositor receives raw water credits that they can sell to a buyer who can then use the credits to satisfy ELCO's raw water dedication requirements. The

² Population does not include wholesale customers.

Water Bank raw water credits may be used by the depositor or may be sold to another developer or individual who does not own enough water supply for their project.

The District's tap fee schedule describes an annual allotment for each water tap category of single family residential, indoor use only³, rural, mobile home, irrigation, and non-residential. Raw water and plant investment fee requirements for new water service connection are based on the annual allotment for each type of water tap. Outside of the limited CIL opportunities described above, to meet these raw water requirements, developers must either transfer, or cause to be transferred, water rights acceptable to the District or acquire raw water credit from the District water bank. While the annual allocation for each new water service connection, i.e., water tap, is tied to ELCO's water rate structure, as further described in Section 3.3 below, the annual allotment volume itself is fixed to the amount that was paid for at the time a connection fee is paid. Raw water dedication requirements are designed to minimize the potential risk of growth occurring without securing adequate water supplies.

In addition to water supply demands, future growth impacts the water treatment and conveyance infrastructure needs. The peak day demand at SCFP has averaged 42.8 MGD over the last 6 years, with a maximum daily flow of 45.5 MGD in 2021 [2]. ELCO will consider the impacts of the projected increase in demand as master planning is updated for the SCFP by the SCWTA in the coming years.

3. WATER DEMANDS AND HISTORICAL DEMAND MANAGEMENT

This WEP uses two projections to assess ELCO's treated water demands over the planning period of 2024 through 2045, as follows:

- **Baseline Projection:** While preparing this WEP, the District was simultaneously preparing the TDMP which includes information about ELCO's historical water demands and a projection of ELCO customer demands through 2045. The TDMP projection takes into consideration anticipated population and development changes within the District's service area, non-revenue water (NRW), and assumes savings from demand management activities that occur passively over time. This WEP utilizes the demand projection from an April 5, 2024 update to the December 15, 2023 draft of the TDMP, Chapter 2 'Water Demand Projections' as the baseline demand projection scenario.
- **Active Projection:** A second projection was prepared for this WEP, as described below, to reflect savings from the water efficiency activities that are planned to be implemented under this WEP.

The projections provide a range of reasonable future treated water demand estimates that reflect the anticipated growth in ELCO's service area and varying degrees of water efficiency. The projections were used to evaluate potential water savings from water demand management activities that occur both "passively", as a result of retrofits in current development associated with fixtures aging and being replaced with newer fixtures that comply with national and state plumbing codes and standards along with the higher efficiency plumbing included in new development, and "actively", as a result of the District's water efficiency program. Information in the following sections related to historical water use, population, and the baseline projection is primarily from the TDMP, supplemented with information in ELCO's 2016 WEP. Differing time periods presented in the tables and figures reflect the available data.

³ Residential developments with the ability to develop and implement a non-potable irrigation system can potentially reduce raw water dedication requirements if the viability of the non-potable supply can be demonstrated and is approved by the District.

3.1 SERVICE AREA CHARACTERISTICS

ELCO provides treated water service to over 8,000 customer accounts in its service area with an estimated 2020 population of approximately 23,000⁴ people. The District's service area population has been increasing and this trend is expected to continue through the 2045 planning period, as further described in Section 3.7 below. ELCO uses the following categories to classify its water service accounts:

- Single-Family Residential
- Multi-Family Residential
- Commercial
- Irrigation
- Mobile Home Parks
- Bulk/Hydrant⁵
- Wholesale

A pie chart showing the percentage of average annual metered billed consumption for each customer class, based on billed consumption data collected from individual customer meters, from 2017 through 2022 is provided in **Figure 2**. Single-family residential accounts have consumed the majority of the metered water in ELCO's service area, accounting for 62% of average billed consumption during this period. The commercial and wholesale customer categories each account for about 12% of average billed consumption. The combination of the irrigation, mobile home and multi-family categories make up the remaining 14%. Bulk/hydrant accounts consumed a negligible amount of water during this period. Irrigation accounts are predominantly used for common areas in residential neighborhoods that are maintained by HOAs and multi-family residential properties. The two wholesale accounts served by ELCO are included in the treated demand projection because they utilize a portion of the District's infrastructure; however, these customers were excluded from the analysis of efficiency activities and water savings estimates because ELCO does not have a direct relationship with the end users. Non-potable raw water demands associated with ELCO's customers who have their own supplemental irrigation supplies were not included in the historical demand analysis or the projections because these sources of supply are not owned or operated by the District.

⁴ Population does not include wholesale customers.

⁵ Bulk and hydrant billed consumption were negligible during the 2017 through 2022 period and were not included in Figure 2 or any of the following WEP figures or tables. Therefore, any bulk or hydrant consumption is reflected as non-revenue water in this WEP.

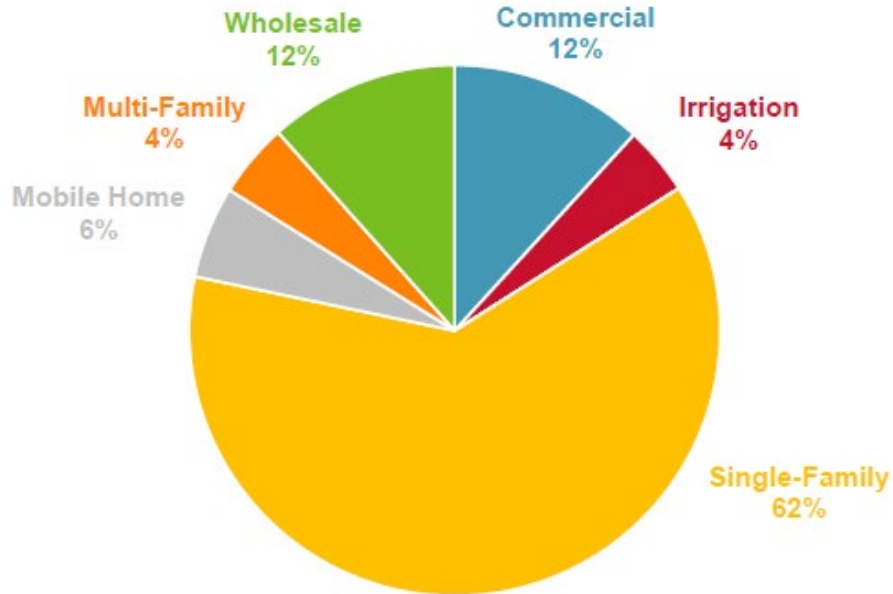


Figure 2. 2017 – 2022 Average Annual Billed Consumption by Customer Class.

3.2 HISTORICAL WATER DEMANDS

System-wide water use, based on billed consumption data, within ELCO’s service area has been increasing since at least 1999 in response to population growth; however, the normalized average daily use per person, expressed in units of gallons per capita per day (gpcd), has been declining over the same period, as shown in **Figure 3**. The normalized average daily use per person is based upon population values from the TDMP shown in **Table 1**. These trends are consistent with other municipalities throughout Colorado and beyond, and indicate that the District’s water efficiency program, national plumbing codes and standards, and programs like EPA WaterSense are contributing to an overall decrease in per capita water use.

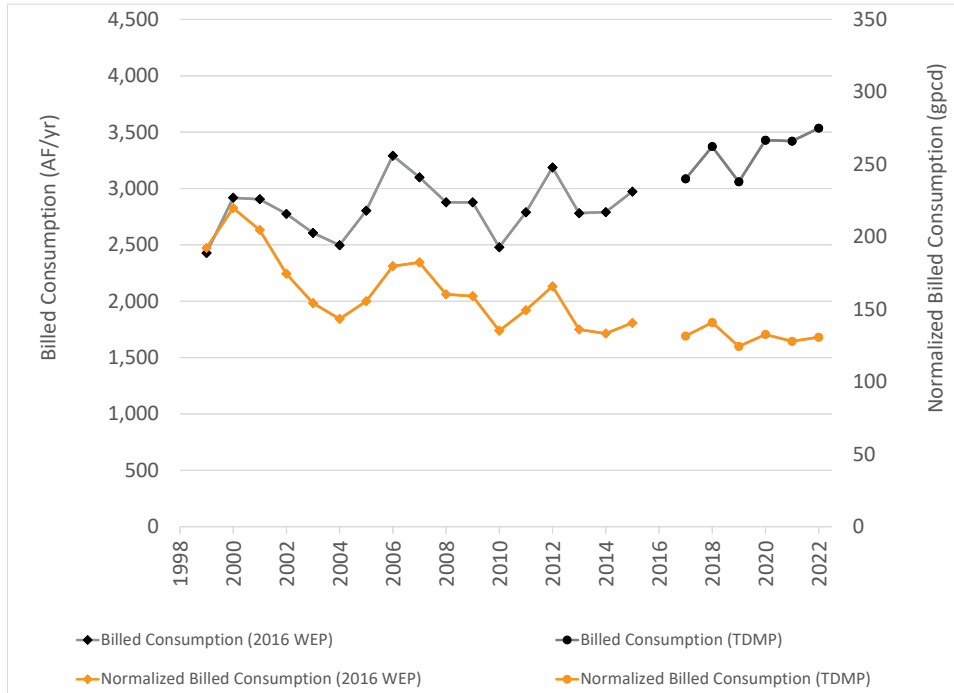


Figure 3. System-wide Annual Billed Consumption Excluding Wholesale.

ELCO tracks the wholesale customer class water use but ELCO does not have the additional information needed to normalize the data on an individual account or per capita basis. Trends in wholesale billed consumption are still useful to monitor for planning purposes. As shown in **Figure 4**, the wholesale customer annual billed consumption from 2011 through 2022 ranges from 352 AF/yr to 493 AF/yr and shows an increasing trend in water delivery.

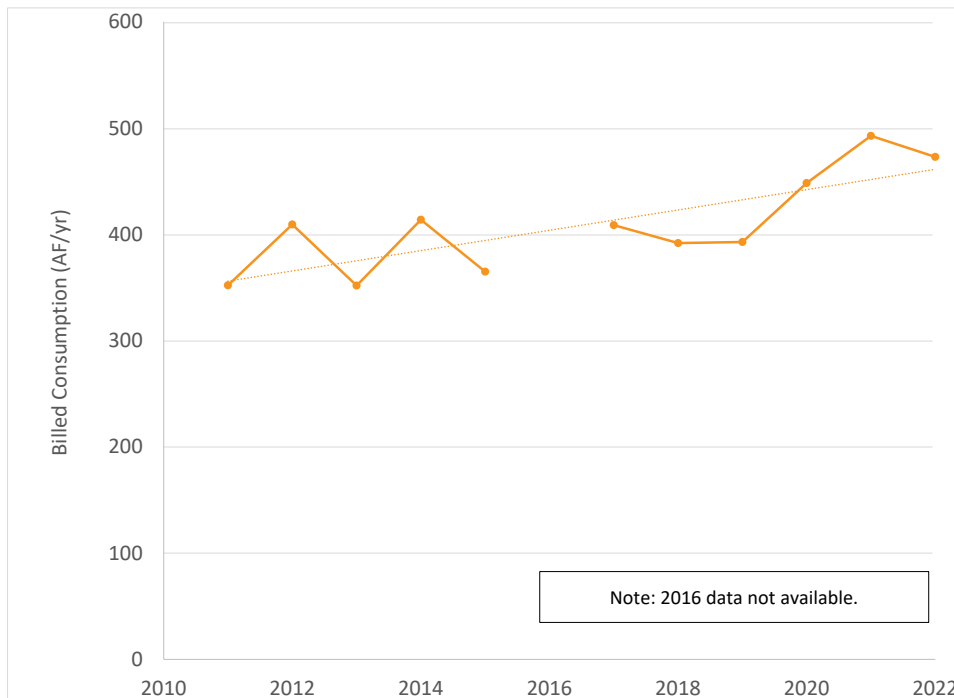


Figure 4. Annual Wholesale Billed Consumption.

The annual billed consumption for ELCO’s system ranged from 3,452 AF/yr to 4,008 AF/yr over the last six years, as shown in **Table 1**.

Table 1. Annual Billed Consumption.

Year	Population (#) ^b	ELCO Water Customers (AF/yr)						Other Sales (AF/yr) ^a	Total (AF/yr)
		Single-Family Residential	Multi-Family Residential	Commercial	Irrigation Only	Mobile Home	Sub-Total	Wholesale	
2017	20,900	2,137	149	442	125	232	3,086	409	3,494
2018	21,400	2,313	186	474	159	240	3,372	392	3,764
2019	22,000	2,104	169	438	133	215	3,059	393	3,452
2020	23,100	2,478	177	420	160	195	3,429	448	3,877
2021	23,900	2,458	172	433	171	186	3,420	493	3,913
2022	24,100	2,528	167	447	198	195	3,535	473	4,008
Average	22,600	2,336	170	442	158	210	3,317	435	3,751

Notes:

- a. Bulk/Hydrant sales are not included in this table.
- b. Population does not include wholesale customers. Calculated using ELCO single-family residential, multi-family residential, and mobile home account data and 2.58 people per account based on US Census Bureau information for Larimer County households; rounded to the nearest 100.

As with most municipalities in Colorado, ELCO customer demands are higher during summer months, as shown in **Figure 5**, due to landscape irrigation that increases with temperature and other seasonal water uses [6]. Single-family residential customers have the largest volumetric demands making this customer class the key driver with respect to the District’s water supply and treatment capacity requirements.

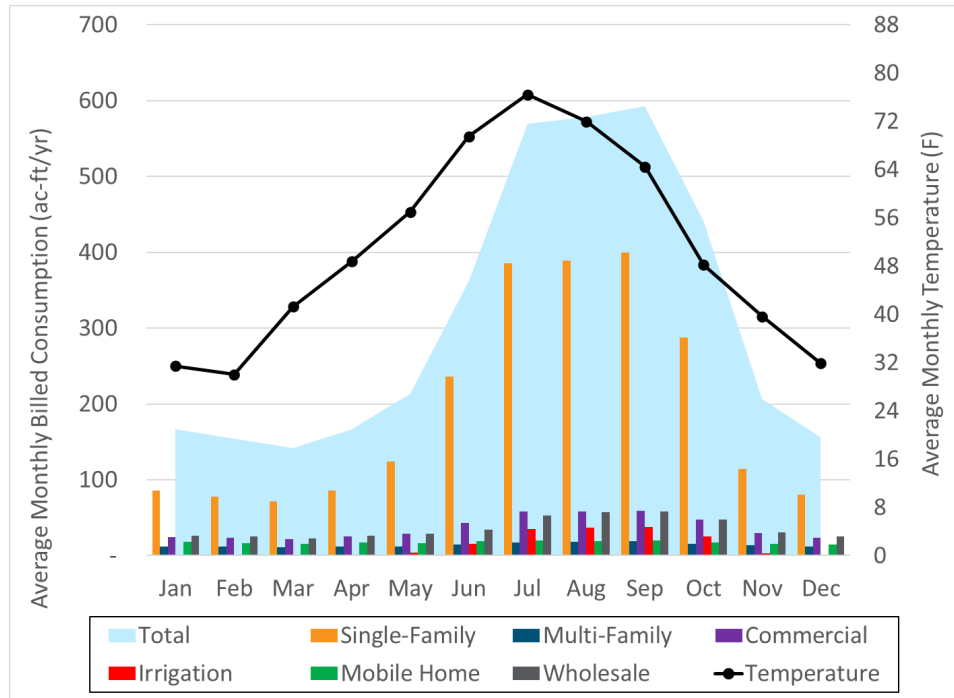


Figure 5. 2017 – 2022 Average Monthly Billed Consumption by Customer Class.

For this WEP, the system-wide annual indoor (non-seasonal) water use was estimated using a standard average winter consumption (AWC) approach that relies on monthly data from November, December, and January when there is typically no outdoor use. System-wide annual outdoor (seasonal) water use was calculated as the difference between total billed consumption and the estimated indoor use. The results of this analysis indicate that, on average, treated indoor use is slightly larger than outdoor use in ELCO’s service area as shown in **Table 2**. However, the outdoor values are being skewed downward by the approximately 20% of customers that also use raw/non-potable supplies for irrigation. As would be expected, treated outdoor usage tends to be higher in dry and hot years such as 2020.

Table 2. Estimated Annual Indoor and Outdoor Consumption.

Year	Indoor (AF/yr)	Outdoor (AF/yr)	Indoor (%)	Outdoor (%)	Annual Precip. (in) ^a	Avg. Annual Temp. (°F) ^b
2017	2,063	1,431	59%	41%	17.1	52.0
2018	2,060	1,704	55%	45%	13.6	50.8
2019	2,024	1,428	59%	41%	15.4	48.8
2020	2,012	1,865	52%	48%	11.9	51.3
2021	2,293	1,620	59%	41%	14.4	51.3
2022	2,259	1,749	56%	44%	13.6	51.1
Average	2,119	1,633	57%	43%	14.3	50.9

Notes:

a. Source: NOAA USC00053005

b. Source: CoAgMet FCL01

A similar analysis was prepared for ELCO’s individual customer classes, shown in **Table 3**, and was used to evaluate potential demand management activities. The results indicate that outdoor use by multi-family and mobile home residential customers is relatively low, averaging 11% and 7%, respectively. The District indicated the low outdoor percentages are related to multi-family properties now being required to have an additional irrigation-only tap and mobile home parks typically having a relatively small amount of landscaping.

Table 3. Estimated 2017 – 2022 Average Annual Indoor and Outdoor Consumption by Customer Class.

Customer	Indoor	Outdoor
Single-Family	48%	52%
Multi-Family	89%	11%
Commercial	70%	30%
Irrigation	0%	100%
Mobile Home	93%	7%

Relative to the 2016 WEP, outdoor usage as a percentage of the total use has decreased within each customer class other than the Irrigation class which is entirely outdoor use. ELCO will continue to monitor customer class trends in water use and the estimated breakdown between indoor and outdoor water. Changing trends may indicate customer responses to changes in climate, the cost of water, or other influencing factors and will help inform updates to ELCO policies.

3.3 ANNUAL WATER ALLOTMENT

ELCO currently bills its customers on a monthly basis using a rate structure that is customized for each account based on the amount of water that was dedicated to ELCO at the time ELCO committed to provide service to development associated with the account. This amount of water is referred to as an annual allotment and is analogous to a combined annual water budget for indoor and outdoor uses. A fixed annual allotment is established for each new water service based on the District’s then-current tap fee schedule.

There is a monthly base charge that varies by customer class and escalates with meter size. Each customer class also has a two-tier rate structure [7]. The first tier is described as a “usage charge” that has a volumetric threshold equal to the annual volumetric allotment that was associated with the raw water dedication associated with the original service connection for the account (described in Section 2.1.4 above). The second tier is described as a “conservation charge” for usage that exceeds the annual allotment. Usage above the annual allotment places additional and unplanned demands on the District’s infrastructure and water resources and therefore is billed at a higher rate than the usage charge. The District uses this rate structure to provide customers with a volume of treated water that is equivalent to the volume of raw water that was dedicated for the associated tap at the time of ELCO’s service commitment while also incentivizing customers to manage their demands within that annual allotment.

Annual allotments for new water service connections have changed over time and have generally decreased for all customer classes. For example, ELCO originally required a raw water dedication of 1 C-BT unit per residential unit and customers that connected to ELCO during that period of time were given an allotment of 240,000 gallons per year (gal/yr) that remains tied to those particular accounts today. Since 2000, the annual allotment for single-family residential customers has been based on lot size and the current schedule is shown in **Table 4** [7].

Table 4. Current Single-Family Residential Annual Water Allotment.

Lot Size (sq-ft)	Annual Allotment (gal/yr)
1 – 2,900	68,000
3,000 – 4,999	90,000
5,000 – 6,999	108,000
7,000 – 8,999	126,000
9,000 – 10,999	144,000
11,000 – 12,999	162,000
13,000 – 14,999	180,000
15,000 – 16,999	198,000
17,000 – 18,999	216,000
19,000 – 20,999	234,000
21,000 – 22,999	252,000
Over 23,000	261,000

Single-family residential developments with a District-approved non-potable irrigation supply may currently qualify for a reduced annual allotment of 51,000 gal/yr per lot, with the assumption that the entire allotment will be used only indoors. The annual allotment for multi-family and mobile home customers is currently 36,000 gal/yr/unit and 73,000 gal/yr/unit, respectively. The annual allotment for irrigation customers is currently determined using a site-specific landscape plan based on 20,000 gal/yr per 1,000 square feet (sq-ft) of turf area, 10,000 gal/yr per 1,000 sq-ft of mulched planting area, and 7,000 gal/yr per 1,000 of native mulched plant area. The allotment for commercial accounts is currently based on tap size with 171,000 gal/yr provided for a ¾-inch tap, and calculated by District staff based upon projected water use or need for the taps 1-inch and larger [5].

3.4 SEASONAL AND PEAK DAY DEMANDS

A summary of ELCO’s total annual and peak water production at the SCFP from 2013 through 2022 is presented in **Table 5**. Over the last five years, ELCO’s peak maximum day production was 9.87 MGD in 2020 when the average daily treated water production was 3.85 MGD, resulting in a peaking factor of approximately 2.56. While the peak production is typically associated with outdoor use in summer months, the peak has also occurred in the early part of summer. Two unusual circumstances resulted in the higher-than-usual maximum daily production values for SCFP in 2018 and 2020. In 2018 ELCO treated and delivered water to the City of Greeley on a temporary basis. Excluding the deliveries to the City of Greeley, the 2018 maximum daily production was 8.15 MGD which occurred on June 14. In 2020 a break in a large 24-inch water line resulted in an unusually high annual maximum daily production at SCFP. Excluding the October 2020 water line break, 2020 maximum daily production was 8.60 MGD which occurred on July 14. The values in **Table 5** include production for the 2018 deliveries to the City of Greeley and the 2020 water lost during the water line break.

Table 5. Annual and Daily Potable Production at SCFP.

Year	Annual (AF/yr)	Annual (MG/yr)	Average Daily (MGD)	Maximum Daily (MGD)	Peaking Factor	Peak Date
2013	4,078	1,329	3.64	8.59	2.36	June 27
2014	3,955	1,289	3.53	6.41	1.82	July 9
2015	4,692	1,529	4.19	8.05	1.92	August 12
2016	4,079	1,329	3.63	7.99	2.20	July 10
2017	3,910	1,274	3.49	8.35	2.39	June 30
2018	4,879	1,590	4.36	9.87	2.27	October 8
2019	3,949	1,287	3.53	7.84	2.22	September 2
2020	4,323	1,409	3.85	9.87	2.56	August 7
2021	4,338	1,413	3.87	8.83	2.28	June 16
2022	4,608	1,501	4.11	8.58	2.09	June 22
Average	4,281	1,395	3.82	8.44	2.21	-

3.5 SYSTEM NON-REVENUE WATER

ELCO’s NRW includes real or apparent losses that occur between the meter where SCFP production is measured as it leaves the treatment plant and the meters that measure water delivery to customers. Real losses may include water loss through water main leaks or breaks and storage overflows. Apparent losses may include unauthorized use (e.g., theft and tampering), unbilled consumption and meter inaccuracy, unmetered consumption including hydrant flushing, firefighting, maintenance, and leak adjustments [2]. A comparison of annual water production at SCFP and total metered consumption, including wholesale, based on billing data over the last six years indicates an average NRW value of 13.2% shown in **Table 6**. This is a reduction relative to the average 18.7% identified in the 2016 WEP. Recognizing the 2018 deliveries that were made to Greeley, the TDMP uses an average NRW value of 11.3% which was calculated by excluding the 2018 value.

Table 6. Comparison of Treated Production and Total Billed Consumption.

Year	SCFP Production (AF)	Billed Consumption (AF)	NRW (AF)	NRW (%)
2017	3,910	3,494	416	10.6%
2018 ^a	4,879	3,764	1,116	22.9%
2019	3,949	3,452	497	12.6%
2020	4,323	3,877	446	10.3%
2021	4,338	3,913	425	9.8%
2022	4,607	4,008	599	13.0%
Average	4,334	3,751	583	13.2%
Average Excluding 2018 ^b	4,226	3,749	477	11.3%

Notes:

- a. In 2018 ELCO made deliveries from the SCFP to the City of Greeley on a temporary basis.
- b. The TDMP uses a NRW value of 11.3% to represent the 2017 through 2022 period and assumes that it will remain at 11.3% through 2045.

The reduction of NRW has been a primary focus of the District’s water efficiency program. As described in the 2007 WEP, the District reduced system losses from approximately 25% to 10% from 2004 through 2007, which is a remarkable improvement. As described in the 2016 WEP, from 2013 through 2015, NRW increased to between 20% and 25% due to challenges identifying and repairing leaks with no surface indicators. The District experienced a high NRW percentage of 22.9% again in 2018 but since then the NRW percent has been less than 15% annually.

Historically the District has annually contracted with a professional leak detection firm that utilizes sophisticated acoustic equipment to test for leaks over approximately 20% to 25% of the system per year. District staff also compare production data to meter readings on an ongoing basis. Repairs are then made based on these analyses. District staff also inspect service connections and meters for customers with a suspected leak. Staffing limitations in the last few years have resulted in leak detection taking place less frequently than on an annual basis.

3.6 PAST AND CURRENT DEMAND MANAGEMENT ACTIVITIES AND ESTIMATED WATER SAVINGS

ELCO’s water efficiency program has historically included conservation-based rate and tap fee structures, leak detection and repair, targeted technical assistance and incentives, and public outreach and education. The past and current activities demonstrate the District’s commitment to water use efficiency. A combination of projected and historical population and treated production data are described below and were used to evaluate water savings that have occurred during the implementation of the 2016 WEP.

The 2016 WEP used three scenarios to project the future total treated production: a baseline scenario that assumed no additional savings associated with conservation activities, a passive scenario that assumed savings from increases in efficiency that occur without incentive (e.g., savings from replacement of aging fixtures or increasingly efficient new development), and an active scenario that assumed savings associated with the successful implementation of the 2016 WEP. Comparing the projections for the

baseline and active scenarios shown in **Table 7** indicates that the 2016 WEP had a goal of 340 AF/yr of savings during this 2017 through 2022 period. The actual 2017 through 2022 annual average treated production volume was lower than all of the 2016 WEP projections, demonstrating that ELCO met the 2016 WEP conservation goal.

Table 7. Projected and Actual 2017 through 2022 Average Annual Treated Production.

2017 – 2022 Average Annual Treated Production (AF/yr)		Source
Projected ‘Baseline’ Scenario	4,571	2016 WEP
Projected ‘Passive’ Scenario	4,503	
Projected ‘Active’ Scenario	4,357	
Actual	4,334	TDMP

It is important to note that the actual 2017 through 2022 population was higher than the population projections that the 2016 WEP demand projections were based upon. The 2016 WEP estimated that ELCO’s service area population would average approximately 20,805 people from 2017 through 2022. Population values in Table 1 show that the service area population has increased at a faster rate than anticipated by the 2016 WEP, averaging approximately 22,600 people from 2017 through 2022. The projected scenario volumes shown in Table 7 would have been higher if they had been based on the actual population, which means that more efficiency has occurred than is apparent by comparing the projections in Table 7 to the actual treated production volume. For example, scaling by the actual population, the 2016 WEP Projected ‘Baseline’ Scenario would have been 4,965 AF/yr ($4,571 \text{ AF/yr} \div 20,805 \text{ people} \times 22,600 \text{ people}$). The actual treated production was 631 AF/yr less than the adjusted baseline projection, providing a closer reflection of the savings that have occurred through passive and active conservation.

ELCO does not discreetly track water savings for individual water efficiency activities nor is it possible to do so for certain activities. Water savings estimated for the District’s active conservation activities are shown in **Table 8**, based on the District’s qualitative assessment of program effectiveness coupled with the Colorado Waterwise Guidebook of Best Practices for Municipal Water Conservation in Colorado. The majority of savings have been attributed to ongoing meter replacement and water loss control. These overlapping activities yield more accurate billing, which results in customers being charged for their actual consumption and improves the District’s revenue recovery. Using the estimated 631 AF/yr total savings from the adjusted projection described above indicates that approximately 141 AF/yr of savings have occurred through passive conservation during the 2017 through 2022 period.

Table 8. Estimated 2017 through 2022 Average Annual Water Savings from Active Conservation.

Water Efficiency Activities	Estimated Water Savings (AF/yr)
Meter Replacement Program	250
Water Loss Control	230
Conservation-Oriented Rates	5
Sprinkler Audits	5
Total	490

3.8 DEMAND PROJECTIONS

This WEP relies on two demand projection scenarios:

1. A baseline projection, and
2. An active conservation projection.

The baseline demand projection scenario was created by HDR, Inc. for the TDMP, using a land use analysis, and takes into consideration the passive effects of demand efficiency from Colorado legislation, federal plumbing codes and standards, natural replacement of aging appliances and fixtures, and increasing efficiency of new construction from the previously mentioned items. The active conservation demand projection scenario was prepared by ELEMENT for this WEP, by incorporating projected water savings from the implementation of active water efficiency activities described in Section 4 below into the baseline demand projection.

The projections are presented in **Figure 6** and described in the sections below. Each projection includes demand starting in 2023 and extending through the 2045 planning horizon (22 years). The TDMP recognizes that climate changes are an important consideration for future water management and are likely to impact landscape irrigation demands which will also be influenced by customer behaviors and water efficiency activities. The baseline water demand projection was not adjusted to reflect potential impacts from climate changes. Similarly, the active conservation demand projection was not adjusted for potential impacts from climate change. The TDMP and this WEP recommend that ELCO continue to monitor average and peak demands so that future adjustments can be made due to changes in the climate over time.

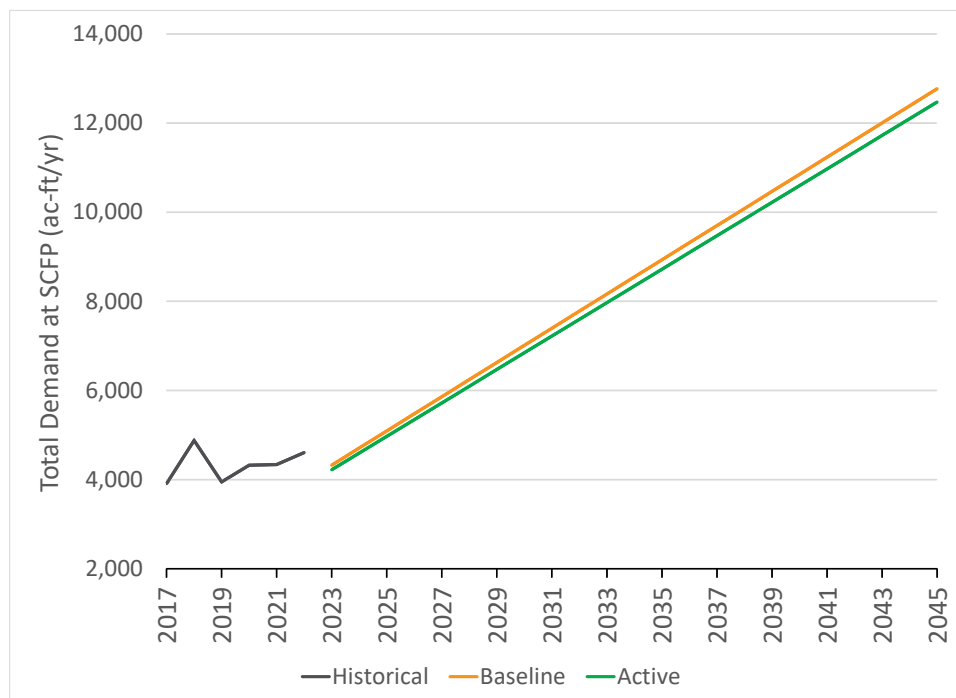


Figure 6. Demand Projections.

3.8.1 BASELINE PROJECTION

The population projections relied upon for this WEP are described in the TDMP and shown in **Table 9** below. The TDMP uses residential population projections created from a land use analysis, for which “zoning data was collected from each municipality ... and used to develop a parcel-based database of land use types across ELCO’s service area. Maximum allowable densities were established for each land use area... The land use analysis was used as the basis of planning to develop demand projections” [2]. Accurately predicting ELCO’s service area population growth is challenging and relies upon ongoing revisions to land use planning from various land-use authorities of jurisdictions in the District’s service area. The projected population values in Table 9 are considered appropriate for the planning period used in this WEP. The District intends to consider adjustments to the population projections in any future updates of the TDMP and subsequent updates to the WEP.

Table 9. Estimated Historical and Projected ELCO Service Area Population.

Year	Residential Population ^a	Average Growth Rate/Year (%)	Source
2020	23,331 ^b	-	2024 TDMP (Land Use Analysis)
2025	31,804	7.6%	
2030	40,278	5.3%	
2035	48,751	4.2%	
2040	57,224	3.5%	
2045	65,698	3.0%	

Notes:

- a. Population does not include wholesale customers.
- b. The TDMP land use analysis resulted in a 2020 population estimate of 23,331 which is similar to the 2020 value shown in Table 1 above.

The population projection was combined with densities for each representative land use category and other assumptions described in Chapter 2 of the TDMP. The key assumptions include:

- Planning period through 2045.
- Percentage of buildout completed by the end of the planning period is estimated to be 60%.
- Percentage of available land used for development is estimated to be 75%, while reserving land for public right-of-way and open space.
- Future residential per capita consumption from current population for indoor and outdoor uses, including NRW, is estimated to be approximately 124 gpcd⁶.
- Future new residential per capita consumption for indoor and outdoor uses, excluding NRW, is assumed to be 100 gpcd. The TDMP recognizes that newer homes use less water, citing reduced lot sizes, irrigation, and newer fixtures, and characterizes the 100 gpcd as a conservative planning value. No additional conservation beyond the amount included in the 100 gpcd value is assumed.

⁶ The TDMP calculates a residential per capita demand of 124 gpcd from the sum of the 2017 through 2022 average annual single-family, multi-family, and mobile home annual billed consumption and the 2017 through 2022, excluding 2018, average annual system-wide NRW volume divided by an estimated 2020 population of 22,998. The 22,998 population used for the calculation is between the 2020 population value and the 2017 through 2022 average population value in Table 1.

- Persons per household is assumed to be 2.58, based on US Census Bureau information for Larimer County households.
- Commercial demand for indoor and outdoor uses is assumed to be 1,500 gpd/acre with a standard planning commercial land use density.
- Demand for irrigation-only customers is assumed to remain constant into the future.
- Wholesale demands are not projected to increase past the current contracted water sale amount through 2045.
- NRW is assumed to remain at 11.3% of total average daily demand.
- No impacts of climate change were incorporated in the baseline demand projection scenario.

The baseline demand scenario projects that ELCO's demand from the SCFP will be approximately 12,770 AF/yr in 2045.

3.8.2 ACTIVE CONSERVATION PROJECTION AND WATER EFFICIENCY GOALS

ELCO's water efficiency program is strongly influenced by ELCO's water dedication policy. The ELCO Board is committed to providing each customer with the volume of treated water that was allotted when raw water was dedicated for the associated tap. ELCO's rate structure is consistent with this philosophy. The water efficiency program is also influenced by the fact that ELCO does not have land use authority.

The active conservation projection reduces the baseline demand projection by an annual amount that is projected to be achieved if this WEP and the associated activities described in Section 4 below are fully implemented as described in Section 5 below. The active conservation demand projection also relies on the following additional assumptions:

- Outdoor water use impacts from temperature and precipitation in 2045 are similar to 2020 (i.e. no effects of additional climate change are included in the projection).
- NRW is limited to 10% annually.

If the elements of this plan are fully realized, it is estimated that water demand at SCFP in 2045 will be reduced to 12,471 AF/year. This is a reduction of approximately 300 AF/year from the baseline demand projection. The District will use this plan to achieve water savings goals of approximately 172 AF/yr in 2030, at which point the WEP will be updated. Subsequent WEPs may alter or update these goals.

4. SELECTION OF WATER EFFICIENCY ACTIVITIES

ELCO considered a variety of water efficiency activities before selecting the final components for inclusion in this plan, which were used to develop the active conservation demand projection that was described in the previous section. An iterative process was used, with efficiency measures screened using a variety of criteria including:

- Feasibility to Implement from a Staff and Resource Perspective
- Economic Viability and Cost Effectiveness
- High Likelihood of Successful Implementation During the WEP Planning Period
- Potential for Meaningful Water Savings

The District utilized the CWCB's Municipal Water Efficiency Plan Guidance Document [8], including the activity selection worksheets, and the Colorado Waterwise Guidebook of Best Practices for Municipal

Water Conservation in Colorado [9] to inform and guide the development of this WEP and to assist in the activities screening process. The District estimates that implementation of the selected water efficiency activities described below will result in a reduction of treated water demands by approximately 300 AF/yr in the year 2045 relative to the baseline projection.

4.1 SUMMARY OF THE SELECTION PROCESS

The District implemented a phased screening and selection process for evaluating potential water efficiency activities as follows:

Initial Screening. ELEMENT conducted an initial screening, using the CWCB screening and evaluation worksheets [8] and the Colorado Waterwise Guidebook of Best Practices [9] as the key technical resources, along with professional experience and information provided by the District staff regarding their goals and prior experience. ELEMENT compiled information about activities that passed the initial screening and met with the District staff to review the information.

Final Screening and Selection. The final phase of screening and selection of water efficiency activities was made by District staff with subsequent approval by the Board of Directors. The District's approach to fixing water allotments to the volume that is set and paid for at the time the water tap is purchased and related processes strongly influenced the District's final selection of water efficiency activities.

Activities selected during the final screening were then used to estimate the anticipated savings associated with the District's water efficiency program.

4.2 WATER EFFICIENCY ACTIVITIES

The CWCB Municipal Water Efficiency Plan Guidance Document places water efficiency activities in one of four categories: foundational, targeted technical assistance and incentives, ordinances and regulations, and education and outreach [8]. Using these categories, a summary of new and updated water efficiency activities selected for inclusion in this plan is presented in **Table 10**. Each measure is described in more detail in the sections below.

Table 10. New and Updated Water Efficiency Activities and Water Savings Estimates.

Water Efficiency Activities	Existing or New Activity?	Customer Class	Projected Active Water Savings in 2045 (AF/year)
FOUNDATIONAL ACTIVITIES			
Metering Program	Existing	All	165
Enhanced Water Loss Control	Existing	All	130
Conservation-Oriented Rates	Existing	All	TBD at Time of Rate Study If Changes Implemented
Expansion of Land Use Planning Coordination	New	All	No Direct Savings Estimated
TARGETED TECHNICAL ASSISTANCE AND INCENTIVES			
Sprinkler Audits	Existing	Residential, Irrigation (HOA)	5 AF
ORDINANCES AND REGULATIONS			
Water Efficiency-Related Regulations	Existing	All	No Projected Savings, Dependent on Enforcement
EDUCATION AND OUTREACH			
Public Information, Customer Outreach, and Education	Existing	All	No Direct Savings Estimated
Newsletters and Utility Billing Inserts	Existing	All	
TOTAL			300

4.2.1 FOUNDATIONAL ACTIVITIES

The CWCB defines foundational activities as those that involve system operations and water efficiencies, are under the water provider’s direct control, and can significantly improve the effectiveness of the overall plan by ensuring sufficient metering and data tracking. The CWCB has determined that these activities are common to effective plans and recommends that providers have foundational activities in place prior to undertaking other extensive efficiency activities [8]. This WEP primarily focuses the District’s water efficiency resources and staff efforts on implementing and maintaining efficiency activities in this area.

4.2.1.1 METERING

A quality metering program is fundamental to the success of water management efforts. Colorado statute requires all water providers to meter the water use of their customers and to bill based on metered consumption. The metering program is a key component of the District’s plan to meet its goal of reducing NRW to be consistently less than or equal to 10% [10]. ELCO meters 100% of connections (including all District facilities) and the Rules and Regulations prohibit the provision of any free water service [11]. Customer meters are read monthly on a rotating basis. The District is in the process of upgrading all customer meters within its service area to Advanced Metering Infrastructure (AMI) such that meters can be read automatically and water use data can be available for the District and customers in close to real time. To date, approximately 7,700 meters have been upgraded and are read automatically while the remaining approximately 800 meters continue to be read manually. The effort to upgrade all District

meters to AMI is expected to be complete in 2025. The District plans to replace meters every 15 to 20 years to support the collection of accurate consumption data.

As ELCO customers are transitioned from manually read meters to AMI, more information is becoming available about near-real-time water use. The District's water bill content includes information regarding each customer's year-to-date usage compared to their annual allotment. This information is helpful for customers to be aware of their water use and make adjustments if necessary. The AMI meter and software provide data that are updated over a 24-hour period and are available to view online for each customer. This software also allows notifications to be sent to customers either via text or email notifying them of continuous flow over a 24-hour period which could indicate a possible leak.

In addition to the District's efforts on customer meters, large meters at the SFCP and throughout the ELCO transmission and distribution system are included in the metering program. The SCWTA is responsible for the reading, operation, maintenance, and replacement of master meters that measure treated water as it leaves the water treatment plant and enters the distribution system. According to SCWTA staff, these meters are tested annually and if found to be outside of the manufacturers' recommended range of accuracy, meters are rebuilt or replaced. ELCO is responsible for similar testing, maintenance, and replacement as needed of large meters within its transmission and distribution system, including those serving wholesale customers. ELCO plans to conduct annual testing of its large meters starting in 2025.

4.2.1.2 ENHANCED WATER LOSS CONTROL

Leak detection and water loss control are fundamental water efficiency practices for all water utilities. As discussed above in Section 3.5, ELCO's NRW has fluctuated from year to year and was greater than 20% from 2013 through 2015, which is relatively high compared to other Colorado utilities that have achieved NRW of less than 10% as of 2009 [10]. The 2023 update of the Colorado Water Plan shows that NRW percentages for the South Platte Basin and Metro Region Sub-Basins averaged 14% and 8%, respectively, as of 2015 [12]. The variability in ELCO's annual NRW values highlights the importance of water loss control for ELCO.

ELCO's enhanced water loss control program will aim to consistently achieve annual NRW values of less than 10% of water production. It may be possible for the District to achieve further savings, and subsequent water efficiency planning efforts may evaluate if further consistent reductions in NRW are feasible.

A key focus of this WEP is to improve overall water loss control and accountability by implementing an annual water audit using the AWWA M36 Water Audits and Loss Control Programs methodology and the AWWA water loss control Excel spreadsheet software. This water loss control program will further assist the District in managing its water by categorizing all water uses and identifying real losses that directly impact revenue, as shown in **Figure 7** below. Staffing resources have been a limiting factor for implementing the AWWA water audit, but the District has identified this as a high priority to assess NRW and evaluate the cost of real and apparent losses to the utility. The AWWA M36 audit is a critical tool for informing water loss control programs and understanding where best to apply water loss control resources, and when coupled with the District's ongoing acoustic leak detection surveys described in Section 3.5 above, will help achieve the District's goal of reducing NRW to be consistently less than or equal to 10%.

Total System Input (Own Sources and Imports)	Authorized Consumption	Billed Authorized Consumption	Revenue Water	Billed Metered Consumption
		Unbilled Authorized Consumption	Non-Revenue Water	Billed Unmetered Consumption
	Water Losses	Apparent Losses		Unbilled Metered Consumption
				Unbilled Unmetered Consumption
		Real Losses		Unauthorized Consumption
				Customer Metering Inaccuracies
				Systematic Data Handling Errors
				Leakage on Mains
	Leakage and Overflows from Storage			
	Leakage on Service Lines			

Figure 7. AWWA M36 Water Audits and Loss Control Categories.

4.2.1.3 CONSERVATION-ORIENTED RATE STRUCTURE

As described in Section 3.3, ELCO currently bills customers on a monthly basis using a monthly base charge that varies by meter size and a two-tier inclining block rate structure where the charge per thousand gallons of water varies by customer classification, shown in **Table 11** and **Table 12** below. The threshold between the first and second tier is based on the customer-specific “annual allotment” which is analogous to an annual water budget determined by lot size for single-family residential customers, and by customer classification for all other types of customers, as describe in Section 3.3 above. The District periodically uses metered consumption data to evaluate its annual allotments.

Table 11. Water Rates – Monthly Base Charge, Effective January 1, 2024.

Customer Classification	¾" Water Meter	1" Water Meter	1 ½" Water Meter	2" Water Meter	3" Water Meter	4" Water Meter
Residential (Single-Family)	\$14.93	\$23.08	NA	NA	NA	NA
Commercial	\$14.93	\$23.08	\$32.87	\$72.01	\$153.57	\$333.00
Irrigation	\$14.93	\$23.08	\$32.87	\$72.01	\$153.57	\$333.00
Multi-Family	\$14.93	\$23.08	\$32.87	\$72.01	\$153.57	\$333.00
Mobile Home	\$10.32/space – monthly base charge is based on spaces/pads in community (occupied and vacant)					

Source: [7]

Table 12. Water Rates – Block Rate Structure, Effective January 1, 2024.

Customer Classification	Tier 1 – Up to Annual Allotment (\$/kgal)	Tier 2 – Additional Conservation Charge (\$/kgal)	Total Rate After Allotment is Exceeded (\$/kgal)
Residential (Single-Family)	\$4.70	\$5.29	\$9.99
Commercial	\$4.02	\$5.29	\$9.31
Irrigation	\$6.89	\$5.29	\$12.18
Multi-Family	\$3.15	\$5.29	\$8.44
Mobile Home	\$2.92	\$5.29	\$8.21

Source: [7]

The District periodically completes rate studies to evaluate potential changes to its rate structure. The most recent rate study and structure update was completed in 2018, and the District plans to undertake a new rate study in 2024. During the upcoming rate study, the District plans to evaluate potential benefits of updates such as introducing a monthly component to the transition between tiers. Under the District’s current structure, a customer is subject to the conservation charge for all months after the annual allotment is exceeded. A monthly aspect to the rate structure could allow the customer to respond to a price signal from conservation charges and potentially avoid excessive use in subsequent months. This methodology could be particularly beneficial if a customer has unusually high water use during summer months when outdoor use is occurring, as outdoor use is generally considered to be more discretionary than indoor use, and a customer’s time-sensitive adjustments in use during that season can be made more easily than in later months of the year when indoor use dominates water demand. A common 3-tier conservation-oriented rate structure associates tier 1 with indoor use, tier 2 with an “efficient” amount of outdoor use, and tier 3 with excessive outdoor use. Tier 1 is often based on average winter consumption from the prior year, or alternatively could be based on assumptions regarding occupancy as modified on a case-by-case basis. While this type of rate structure is common throughout the Colorado front range, ELCO needs to consider how its water dedication and service commitment policies may influence any changes to the rate structure.

4.2.1.4 EXPANSION OF LAND USE PLANNING COORDINATION

Within the ELCO service area, Larimer County, Fort Collins, Wellington, and Timnath serve as land use authorities. Although ELCO has no land use authority, coordination and communication between ELCO and the relevant land use authorities can provide multiple benefits to all parties involved. The land-use planning entities benefit from obtaining information about water supply availability for new development and ELCO benefits by obtaining information from the land-use planning authorities about changes and trends in upcoming development, new policies or regulations that could impact the demands of future development, and other information vital for anticipating development trends that influence future water demand. The District will continue and expand current communication with the land-use authorities within its service area.

Unlike water providers who actively pursue the acquisition of new water supplies, ELCO requires property owners or developers requesting water service to provide the water supplies necessary to support any expansion in water demand resulting for development or redevelopment, as described above in Section 2.1. ELCO’s raw water requirements for development benefit the District and its existing customers by requiring that new water supplies are provided to the District prior to development approval. In

September 2023, Fort Collins adopted new water adequacy determination regulations that require any development or redevelopment that will result in new, expanded, or increased water use within the Fort Collin GMA to receive a “will serve” letter from the appropriate water provider indicating adequate water supplies are available to serve that development prior to approval from Fort Collins. Although the District’s raw water dedication policy results in developers securing adequate raw water supplies and dedicating them to the District prior to receiving a water service commitment from ELCO, policies like Fort Collins’ water adequacy determination regulations allow for extra precautions that the land use authority, the developer, and water provider are all in communication prior to development approval.

4.2.2 TARGETED TECHNICAL ASSISTANCE AND INCENTIVES

Targeted technical assistance and incentives encourage the use of indoor or outdoor water-efficient technologies and practices.

4.2.2.1 *SPRINKLER AUDITS AND EDUCATION*

In coordination with Fort Collins, ELCO offers sprinkler system audits to single-family residential customers to help them improve sprinkler system efficiency. A total of 346 sprinkler irrigation audits were completed from 2016 through 2022, ranging from 27 to 77 per year. The District uses billing data to track pre- and post-consumption for participating customers. Water use among customers who received audits varies widely on an individual customer basis, with most customers decreasing use following the audit but some increasing use. Most customers receiving audits during the 2016 through 2022 period reduced water use by 5% to 10%. While it is challenging to accurately estimate the level of water savings, due to overlapping efficiency activities and variable weather conditions, based on the available data, it is estimated that overall, audited customers reduce their water use by about 5%. An additional benefit of the audit program is that it provides a direct point of contact for customer outreach and education about efficient outdoor water use. ELCO plans to continue offering sprinkler audits through established partnerships.

4.2.3 ORDINANCES AND REGULATIONS

Ordinances and regulations that promote and enforce water efficiency play a fundamental role in communicating the District’s commitment to water efficient practices. The District’s Rules and Regulations (ELCO 2016) include language that exemplifies ELCO’s commitment to efficient use of water. This language includes prohibiting known leaks and waste of water and allowing the District to implement outdoor water restrictions during times of drought. ELCO periodically reviews and updates its Rules and Regulations and will continue to do so moving forward.

In addition to the ELCO Rules and Regulations promoting efficient water use, the various land use authorities within the District’s service area have a range of regulatory measures that promote efficient water use. ELCO will continue to communicate with the land-use entities to remain informed about water efficient regulations that may impact current and future water demand.

4.2.4 PUBLIC EDUCATION AND INFORMATION

Public education and information are key components of ELCO’s demand management efforts. The District provides new customers packets of information containing water conservation tips. The District also prepares a newsletter, typically bi-annually, that contains water efficiency tips that are typically focused on outdoor water use. The District will evaluate opportunities to include additional information

in future newsletters regarding recommended monthly irrigation run times for different irrigation methods (e.g., spray versus drip) and plant type (e.g., shrubs versus turf). The District will also utilize the newsletter to inform customers about ways they can save water and reduce their water bills as well as activities the District is implementing to manage water efficiently. The District will use these tools to communicate with customers about the inevitability of increasing costs associated with a system that has aging infrastructure with increasing operations and maintenance costs over time.

5. IMPLEMENTATION AND MONITORING PLAN

5.1 IMPLEMENTATION PLAN

ELCO staff are primarily responsible for implementation of this plan and have been successfully implementing the District’s water efficiency program since the 2016 WEP was completed. ELCO will continue to budget money and may pursue CWCB water efficiency grants to further achieve its water efficiency goals.

The District has developed a phased implementation approach, with many activities being implemented immediately as a continuation of the existing water efficiency program. A summary of the planned implementation schedule for new or substantially expended activities is provided in **Table 13**.

Table 13. WEP Program Implementation Schedule.

Water Efficiency Activities	Start Date	Implementation Plan
FOUNDATIONAL ACTIVITIES		
Metering Program	Ongoing	100% Transition to AMI Complete in 2025
Enhanced Water Loss Control	Ongoing	Annual Leak Detection and Repair, Begin M36 Audits in 2024
Expansion of Land Use Planning Coordination	2024	Identify point people for communication at land use entities in 2024, begin period communication by 2025
TARGETED TECHNICAL ASSISTANCE AND INCENTIVES		
Sprinkler Audits	Ongoing	Audits Offered Annually
ORDINANCES AND REGULATIONS		
Water Efficiency Related Regulations	Ongoing	Periodic Review of ELCO Rules and Regulations
EDUCATION AND OUTREACH		
Public Information, Customer Outreach, and Education	Ongoing	Information available on website
Newsletters and Utility Billing Inserts	Ongoing	Biannually

5.2 MONITORING AND EVALUATION

ELCO plans to review and update this WEP at least every seven years, or as needed. The next WEP update will be completed on or before the date seven years after this plan’s final approval, no later than 2031.

The District monitors water use on a regular basis and will continue to maintain consumption records. Progress toward meeting the stated water savings goal will be evaluated as part of the District's annual water demand reporting to the State that is required under House Bill 1051. This tracking analysis will help determine what, if any, additional activities are necessary to help ELCO meet its stated goal by 2045.

The District produces monthly and annual billed consumption reports for each customer sector and the system as a whole and keeps close track of demand. Unexpected or abnormal water usage by a customer or sector is quickly identified and investigated. The District will monitor the following on an ongoing basis, coordinated with 1051 reporting, until the next WEP update:

- System-wide normalized consumption.
- System water losses.
- Savings attributable to participation in sprinkler audits.
- Consumption in excess of water allotments.
- Information regarding non-residential efficiency audits and estimated water savings.
- Number of waste of water violations.

5.3 REVENUE STABILITY

The District's water rate structure includes a significant minimum monthly charge and tier sizes designed to promote efficiency and revenue stability. ELCO's water demands are anticipated to increase over time in response to population growth. Water efficiency practices help ensure water rates remain as low as practical for customers, because efficiency is achieved at a lower cost than procuring new supplies or constructing new infrastructure. Ongoing customer education and communication is critical, so that as rate changes are implemented, customers understand the reasons for rising costs and that using water efficiently helps reduce the costs. When updating its rates, the District will utilize the range of demand projections provided in this plan to evaluate potential impacts of conservation on future revenue.

6. PUBLIC REVIEW, ADOPTION, AND APPROVAL OF WATER EFFICIENCY PLAN

A public review process is required for all State approved WEPs and the plan must be formally adopted by the local governing entity. The following sections describe the review, adoption, and approval process for this WEP.

6.1 PUBLIC REVIEW

C.R.S. 37-60-126 requires a public review process of no less than sixty days after the date on which the draft plan is made publicly available for all CWCB-approved plans. ELCO posted a copy of the draft WEP on its website on May 1, 2024, followed by a 60-day public review and comment period ending July 1, 2024. Two sets of public comments were received. A summary of ELCO's public review notification, public comments received, and the ELCO's response to public comments are included as **Appendix A**.

6.2 WATER EFFICIENCY PLAN ADOPTION

The manner in which a covered entity develops, adopts, makes publicly available, and implements a plan shall be determined by the covered entity in accordance with C.R.S. Section 37-60-126. The ELCO Board reviewed an initial draft of the WEP prior to the public comment period. The draft WEP was updated

before the public comment period to reflect the ELCO Board’s input, after an initial review provided by CWCB, and again after the public review period. On August 20, 2024, the ELCO Board approved the WEP as presented. A copy of the Board Resolution adopting the Water Efficiency Plan is included as **Appendix B**.

6.3 WATER EFFICIENCY PLAN APPROVAL

The draft WEP was submitted to the CWCB on April 29, 2024, during the public review period. CWCB comments were addressed in this updated final report. On October 9, 2024, ELCO received official notification that the WEP was approved by the CWCB (see **Appendix C**).

7. COMPLIANCE WITH STATE PLANNING REQUIREMENTS

C.R.S. 37-60-126 requires a covered entity to develop, adopt, make publicly available, and implement a water conservation (efficiency) plan that will encourage its domestic, commercial, industrial, and public facility customers to use water more efficiently. According to the statute, a “covered entity” means a municipality, agency, utility, or other publicly owned entity with a legal obligation to supply, distribute, or otherwise provide water at retail to domestic, commercial, industrial, or public facility customers, and that has a total annual demand for such customers of two thousand AF or more. ELCO meets the statutory definition of a covered entity.

To meet the statutory requirements, key elements that must be fully evaluated in development of the plan are listed as follows:

- A) Water-saving measures and programs including:
 - I) Water-efficient fixtures and appliances, including toilets, urinals, showerheads, and faucets;
 - II) Low water use landscapes, drought-resistant vegetation, removal of phreatophytes, and efficient irrigation;
 - III) Water-efficient industrial and commercial water-using processes;
 - IV) Water reuse systems;
 - V) Distribution system leak identification and repair;
 - VI) Dissemination of information regarding water use efficiency measures, including by public education, customer water use audits, and water- saving demonstrations;
 - VII) Water rate structures and billing systems designed to encourage water use efficiency in a fiscally responsible manner;
 - VIII)Regulatory measures designed to encourage water conservation;
 - IX) Incentives to implement water conservation techniques, including rebates to customers to encourage the installation of water conservation measures;
- B) A section stating the submitting entity’s best judgment of the role of Water Conservation Plans in the submitting entity’s water supply planning;
- C) The steps the submitting entity used to develop, and will use to implement, monitor, review, and revise its Water Conservation Plan;
- D) The time period, not to exceed seven years, after which the submitting entity will review and update its adopted plan;
- E) Either as a percentage or in acre-foot increments, an estimate of the amount of water that has been saved through a previously implemented conservation plan and an estimate of the amount of water that will be saved through conservation when the plan is implemented.

- F) Best management practices for water demand management, water efficiency, and water conservation that may be implemented through land use planning efforts.

7.1 ELCO WATER EFFICIENCY PLAN COMPLIANCE

ELCO developed this WEP to comply with C.R.S. 37-60-126. Each element of compliance is documented below.

A) Consideration of Specific Water Efficiency Measures and Programs:

- I) Fixtures and appliances – In the past, ELCO provided indoor water conservation kits to customers upon request; however, this program is no longer implemented because it was not cost effective. ELCO has carefully considered and evaluated the costs and benefits associated with giveaways, rebates, and incentives to encourage more rapid adoption of efficient technology, but no additional expenditures are economically justified at this time because of federal and state regulations mandating WaterSense labeled fixtures.
- II) Outdoor water efficiency – ELCO actively promotes water-wise landscaping practices through its conservation-oriented rate structure and irrigation audits offered in partnership with outside entities to homeowners to help them improve irrigation efficiency (see Section 4.2.2.1). Entities seeking irrigation water taps are also incentivized to pursue mulched planting areas or native landscaping over turf as the raw water dedication requirements for turf are higher than the other two more water-efficient landscaping approaches [5]. ELCO also encourages the installation of non-potable irrigation systems through its development fees and raw water dedication requirements, which does not necessarily result in lower water use but it does reduce the impact on the SCFP and ELCO’s transmission and distribution system.
- III) Commercial, Industrial, and Institutional (CII) measures – ELCO promotes CII water efficiency through its conservation-oriented rate structure. During the 2024 WEP update, the District considered additional water efficiency measures targeted at CII customers, but decided to allocate resources to other efforts because CII water demand makes up a relatively small portion of metered water demand, averaging only 12% of overall metered demand from 2017 through 2022 (Figure 2).
- IV) Water reuse system – See the discussion of reuse in Section 2.1.1.
- V) Water loss and system leakage reduction – See the discussion of enhanced water loss control in Section 4.2.1.2.
- VI) Information and public education – See the discussion of public information and education in Section 4.2.4.
- VII) Water rate structures – See the discussion of conservation-oriented water rates in Section 4.2.1.3.
- VIII) Regulatory measures – See the discussion of water efficiency regulations in Section 4.2.3.
- IX) Incentives to implement water efficiency techniques – ELCO incentivizes the implementation of outdoor water efficiency through the sprinkler audits offered to homeowners and homeowners associations, as described in Section 4.2.2.1. ELCO elected not to pursue any additional water

efficiency incentive activities during this WEP update and rather to focus its limited resources on other foundational water efficiency efforts.

- B) Role of Water Conservation Plans in ELCO's water supply planning.** See Section 1.1 for a description of the role of water conservation and the WEP in ELCO's water supply planning.
- C) Plan implementation, monitoring, review, and revision.** See Section 5 for a description of ELCO's plans for implementation, monitoring, review, and revision of this WEP.
- D) Future review of the plan within seven years.** ELCO plans to review and update this WEP every seven years, or as needed. During this review, progress towards achieving the stated conservation goal will be evaluated.
- E) Estimated savings from previous conservation efforts and current plan.** See Section 3.6 for an estimation of water savings resulting from the implementation of the 2016 WEP.
- F) Land use planning best practices for water demand management, water efficiency, and water conservation.** See Section 4.2.1.4 for a description of ELCO's plan to expand communication and coordination with land-use authorities within the District's service area.

8. REFERENCES

- [1] ELCO, "Drought and Water Supply Plan," East Larimer County Water District, 2023.
- [2] ELCO, "Transmission and Distribution System Master Plan - Water Demand Projections (Draft dated December 15, 2023, Updated April 5, 2024)," 2023.
- [3] Northern Water, "Colorado-Big Thompson Project," 2024. [Online]. Available: <https://www.northernwater.org/what-we-do/deliver-water/colorado-big-thompson-project>.
- [4] Northern Water, "Setting a Quota," 2024. [Online]. Available: <https://www.northernwater.org/your-water/allottees/cbt-quota>.
- [5] ELCO, *Raw Water Requirements and Plant Investment Fee Schedule, Effective January 1, 2024*, East Larimer County Water District, 2024.
- [6] CoAgMet, *Station FCL01, Mean Temperature 1/1/2018 - 12/31/2022*.
- [7] ELCO, "Utility Billing Rates Effective January 1 2024," 1 January 2024. [Online]. Available: <https://www.elcower.org/rate-information>.
- [8] CWCB, "Municipal Water Efficiency Guidance Document," Colorado Water Conservation Board, 2012.
- [9] Colorado Water Wise, "Guidebook of Best Practices for Municipal Water Conservation in Colorado," Aquacraft Inc., 2010.
- [10] Aquacraft, Inc., "Utility Water Loss: A Review of Current Practices in Colorado, Requirements in Other States, and New Procedures and Tools," Colorado Water Conservation Board, 2009.
- [11] ELCO, *Rules and Regulations*, East Larimer County Water District, 2016.
- [12] CWCB, "Colorado Water Plan," 2023.
- [13] ELCO, "Water Efficiency Plan, 2016 Update," Prepared for East Larimer County Water District by ELEMENT Water Consulting Inc., 2017.
- [14] NOAA, *Station USC00053005, Daily Precipitation 1/1/2018 - 12/31/2022*.


APPENDIX A
PUBLIC REVIEW PROCESS

PUBLIC NOTICE ANNOUNCEMENT

A public notice was published on May 1, 2024 on the ELCO website:

<https://www.elcowater.org/>

Comments could be submitted to ELCO via email and mail and were accepted through July 1, 2024. A screen capture of ELCO's public notice announcement is provided below.



East Larimer County Water District

Bidding Opportunities | EyeOnWater | Pay My Bill

Home Forms Careers About Utility Billing Developer Tools Water Quality FAQs EyeOnWater Pay Your Bill

Contact Us

THIS ITEM APPEARS ON
HOMEPAGE

2024 Water Efficiency Plan

The East Larimer County Water District has completed a draft of an updated Water Efficiency Plan and is requesting public input. This Plan updates the District's 2016 Water Efficiency Plan, supporting future water conservation and efficiency activities to provide a reliable water supply for the District into the future. ELCO has integrated water conservation and efficiency throughout its various planning documents and continues to implement a water efficiency program. To read the report, please visit www.elcowater.org. All comments must be submitted by July 1, 2024. Comments can be submitted via email at elco@elcowater.org or via mail to PO Box 2044 Fort Collins, CO 80522.

🔗 Click [here](#) to view the draft of the 2024 Water Efficiency Plan.

COPYRIGHT © 2024 EAST LARIMER COUNTY WATER DISTRICT
232 S LINK LANE, FORT COLLINS CO 80524
TELEPHONE (970) 493-2044

PRIVACY POLICY
WEBSITE ACCESSIBILITY POLICY
DISTRICT TRANSPARENCY
POWERED BY STREAMLINE | SIGN IN

PUBLIC COMMENTS

During the 60-day public review and comment period, ELCO received two sets of comments via email, which are provided on the following pages.

DocuSign Envelope ID: FA0AED5B-1923-4897-9825-92DB11AFABB1



City of Fort Collins
Parks Department
413 S. Bryan Ave
Fort Collins, CO 80521
970-416-2079
mcalhoon@fcgov.com

Mike Scheid, General Manager
East Larimer County Water District (ELCO)
232 S Link Lane
Fort Collins, CO 80524

June 13, 2024

Dear Mr. Scheid,

On behalf of the City of Fort Collins (City), we are providing this comment on one aspect of ELCO's draft 2024 Water Efficiency Plan that is particularly significant to the City. The City may have additional comments that would be submitted later.

In ELCO's current 2016 Water Efficiency Plan, there is a native landscaping establishment program described in section 3.2.1.3. In relevant part, it states:

ELCO has an existing program that incentivizes the installation of native landscaping by waiving water dedication and plant investment fees for landscapes that do not require any permanent irrigation. A temporary tap is allowed for up to five years to provide establishment irrigation, and all use is metered and billed in accordance with the District's water rates. A professional landscape plan is required in order to qualify for the temporary tap program to ensure that planted vegetation will not require irrigation after five years.

The District has not had any customers participate in the temporary tap program; however, interest in the program has increased in recent years due to the costs for raw water supplies.

It has come to our attention that ELCO's draft 2024 Water Efficiency Plan does not continue this program. The City's Parks Department is interested in participating in this program at the four future park sites located in ELCO's service area. This program is in-line with the City's water conservation values and has some resemblance to [Municipal Code Section 26-120\(e\)](#). The City believes that continuing this program would benefit both the City and ELCO.

We request ELCO consider continuing this program in the 2024 Water Efficiency Plan. We would be happy to discuss.

Sincerely,

Mike Calhoon, Director of Parks Department

Jill Wuertz, Senior Manager, Park Planning & Development

DocuSigned by:
Mike Calhoon
902032594F1413
DocuSigned by:
Jill Wuertz
5722009F74043A

From: [Bill Swalling](#)
To: [Mike Scheid \(mikes@elcowater.org\)](#); [Melissa Tremelling](#)
Subject: ELCO 2024 Water Efficiency Plan (WEP)
Date: Monday, July 1, 2024 3:00:42 PM
Attachments: [image001.png](#)

Mike, my comments are made to increase water efficiency in ELCO's District and to make you aware of discrepancies between your plans and implementation. These comments are intended to make you aware of any possible differential treatment between entities looking to incorporate your plan into their businesses, These comments are made to benefit all parties in ELCO's service area. I am trying to do this in sequence to make it easier for you to review.

Comments:

1. 1. Introduction:
 - a. I suggest having your WEP on your web site. Having your plan publicly available will make all your customers aware of how they can help ELCO implement it's commitment to water efficiency, especially in the areas you have highlighted:
 - i. ???
 - b. Do you intend to implement all of your water conservation included in the plans.
1. In the 2017 WEP, you indicated you worked closely with the City of Fort Collins. Is this still the case? Will you incorporate items from the Land Use Code into your 2024 WEP. Some of us are in both jurisdictions and should not be in the position of trying to comply with both WEPs and Land Use Code. Some of the City's ideas mesh well with your plans and can help with implementation.
2. 2.1.2 Non-potable Landscape Irrigation:
 - a. Is the basis for incentivizing developers and new customers your rule 12.2 Contract Rates including:
 - i. the unusual or extraordinary Water Service
 - ii. Rates are fair and equitable
 - iii. The reduction in water that ELCO needs to treat?
 - b. When you determine the needs rom nonpotable water, will you include your water conservation rules and WEP recommendations

for water efficiency? We would like to use nonpotable water from the Sod Farm wells at Sonders Village.

2.1.4 and 3.1: is ELCO aware that single level homes use significantly less water for both potable and irrigation water than traditional 2 story. This is very important when forecasting water need and treating all customers equitably.

4. 3. Water Demands and Historical Demand Management, page 14, Multifamily properties required to have an additional irrigation-only tap. Rule 7.5 extends this requirement to an option for townhomes. Where possible, like Sonders, make it a requirement for a irrigation-only tap.
5. 3.3, page 15: Does Water Edge Metropolitan District qualify as an irrigation customer.
6. 3.6 Based on the 2017 WEP, Sonders was not offered conservation-based rate and tap fee structures...and incentives. Instead, it appears that Sonders paid had increased fees and water requirements. Sonders followed all of water efficiency in the WEP and received no benefit and, in fact, had increased water dedication requirements and higher fees. In Sonders case, the WEP was not implemented successfully.
If Sonders and Sonders Village are included on the table on page 18 Estimated Water Savings would increase by 250 AF/YR, a 50% increase. Application of Rule 10.2 to the 4 City Parks in the area would increase this amount further. If you included Tom Moore's property with the same traits as Sonders, there would be a similar 50% increase.
7. 4. Selection of Water Efficiency Activities:
It looks like the new development water conservation measures have been dropped from the water efficiency activities. I don't believe you intended to do this retroactive to the 2017 WEP. Sonders should still qualify under the criteria in 2017. Before you eliminate these development water conservation criteria, I suggest a cost/benefit analysis. Based on our review and presentation of material to ELCO, we do not believe eliminating these development options for residential communities, schools and parks is cost effective. There is no alternative more effective than completing these strategies. For

Sonders:

- For these type of developments the cost to implement can be 0 for ELCO by utilizing:
 - Consultants through Tri Districts paid for by the applicant
 - Third party review with costs paid by the applicant. An example is the support services provided by Northern Water through Frank Kinder
 - Economic viability: use Sonders as the example. 103 AF/Year save at no cost to ELCO
 - Implementation During the WEP Planning Period: Sonders has completed the infrastructure and home building has been started. Sonders Village is expected to start after Sonders is complete in 2 years. It will conserve an estimated 125 AF/year and use nonpotable well water. The City of Fort Collins anticipates 4 parks to be completes. Some of which are large regional parks. Schools are planned in the area also.
 - Meaningful water savings: Sonders at 103 acre feet and Sonders Village at 125 acre feet are meaningful in the next WEP cycle. This is 75% of the reduction anticipated to 2045.

Please include these in the current period under Conservation-Oriented Rates and Water Efficiency-Related Regulations. All of these projects are completed and need to be confirmed based on material presented to ELCO. These are existing activities that Sonders should have applied.

4.2.1.4: Fort Collins supports all of the water conservation at Sonders and Sonders Village as set forth in the Service Plan for

Sonders and Sonders Village. ELCO simply needs to implement their water conservation measures from the 2017 WEP and include it in the 2024 WEP.

4.2.2 Targeted Technical Assistance and Incentives: No community deserves incentives more than Sonders which implemented all of the 2017 WEP recommendation in this community. Please follow through.

5.1 Implementation Plan: ELCO staff are primarily responsible for implementation of this plan and have successfully implemented the district's water efficiency program since the 2016 WEP was completed. ELCO will continue to budget money and may pursue CWCB grants to further achieve its water efficiency goals. At the last ELCO Board Meeting, the implementation of all of the proposals at Sonders were not approved apparently because of the cost of administration. Please reconsider based on the statements above. Administration costs can be covered by fees from applicants or requesting CWCB funds to review Sonders with a 103 AF/year and Sonders Village at an estimated 125 AF per year. Sonders applied all of the water conservation measures from the 2017 WEP and deserves recognition of the cost savings in the application as the only incentive at no cost to ELCO:

- 3.2.1.3 Conservation Oriented Rate Structure and Tap Fees, Page 27 Tap fees for the installation of native landscaping: Complete at Sonders and planned for Sonders Village, both of which comply with the ELCO Rule 10.2
- 3.2.2.2 Outdoor Water Efficiency:
 - Hines Inc, has designed a state of the art irrigation system to improve irrigation efficiency and reduce outdoor demands. ELCO is aware of these efforts and has not incentivized this additional cost to conserve water.
 - Sonders serves as a demonstration site for

all of the water conservation techniques. Other developers, park planners and school districts can emulate the success of Sonders in conserving water. Sonders has a park that will describe the importance of sustainability in energy use and water conservation.

- 3.2.3.1 Regulatory Measures:
 - Soil amendment and Tilling: done at Sonders
 - Waste of Water: the Hines Inc designed system:
 - Prohibits the watering or spray irrigation between the hours of 10am and 6 pm
 - Senses rain and high wind and eliminates irrigation during these times
 - Senses water leaks immediately and notifies company to repair
 - In addition the system can be shut down from October 1 to May 1
 - Landscape and Irrigation Standards: done at Sonders with the blessing and support from the City with it's metro district approval.
 - Irrigation System Requirements: Completed at Sonders
 - Drought Restrictions: Sonders has a drought plan.
- 3.2.3.2 Raw Water, Reuse, and Recycling: Sonders has a nonpotable irrigation system that was designed by Hines Inc to significantly reduce treated water use by reducing

irrigation demand. ELCO has not provided any reduction in fees or raw water dedication. Our assumption is both of these water conservation measures are covered by Rule 12.2 in that they are both require unusual or extraordinary water service and since they reduce water demand it would be unfair an inequitable for them to provide or pay for treated water they would not use.

8. 7. Compliance with State Planning Requirements:

- Sonders has fully complied with A)11) by designing and installing low water use irrigation, drought-resistant vegetation, removal of phreatophytes and efficient irrigation
- We ask that ELCO provide incentives to implement water conservation techniques, including rebates to customers to encourage the installation of water conserving measures
- The only incentive that Sonders requests is the reduction in PIF and reduction of raw water dedication to match the actual usage of the site. Instead Sonders has to pay more than the typical community for PIF and dedicate more water than it uses.

Sonders requests that ELCO detail it's procedures for incentives to implement water efficiency techniques that ELCO currently has in place. Focus on the existing water conservation techniques is important. The existing techniques include the those that have the most impact from the 2017 WEP. These are the foundational water efficiency techniques.

ELCO should request funds from the CWCB to develop these procedures to make application of water conservation simple, straight forward and financeable.

Finally, by reducing water use, the cost of housing is made more affordable. At Sonders, if ELCO recognized the water savings, costs would be reduced by \$18,000 per unit another state focus.

Thank you for including us in your review of these plans. I look forward to discussing these with you.



Bill Swalling

bill@actualp.com

5340 S. Quebec St, #3305, Greenwood Village, CO 80111

(303) 949-2629 cell

ELCO RESPONSES TO PUBLIC COMMENTS

ELCO prepared the following responses to public comments received. Some of the comments received were related to specific development topics that are not directly applicable to the Water Efficiency Plan and therefore are not addressed herein.

1. Suggest having your Water Efficiency Plan (WEP) available on the District's website.

Response: Over the past 6 months, the District has overhauled the District's website and continues to make slight changes to the content. Once the 2024 WEP is approved by the ELCO Board, staff will make the WEP available to the public via the website.

2. Do you intend to implement all your water conservation included in the plan?

Response: The water efficient activities as described in Table 10 of the plan are mostly activities the District currently has implemented and plan to continue to provide assuming the ELCO Board continues to support the measures and funding is available.

3. In the 2017 WEP, you indicated you work closely with the City of Fort Collins. Will you incorporate items from the Land Use Code into the 2024 WEP?

Response: As described in Section 4.2.1.4, the District will continue and expand current communication with the land-use authorities within its service area. However, ELCO does not have any authority with Land Use Code. District staff have a working relationship with the surrounding towns but cannot enforce any Land Use Code.

4. The prior WEP described a native landscaping establishment program. The current WEP does not continue this program. The City's Parks Department is interested in participating in this program at the four future park sites located in ELCO's service area. We request ELCO consider continuing the program in the current WEP.

Response: Several years ago, the District discontinued the temporary tap option to establish native landscaping for several reasons including liability on the waterline once the tap has been abandoned, lack of Developer's interest in temporary taps, and the financial liability on the District if the temporary tap was not abandoned by the Developer within the required timeframe of 5 years.

District staff was aware that discontinuing this temporary tap option could potentially be an issue for future developments. Staff worked with a professional landscape planner that specializes in designing landscape plans and irrigation systems to develop a reduced tap fee for native landscaping. The reduced tap fee allows for developments to irrigate native landscaping as needed in Colorado's usually dry climate.

APPENDIX B
BOARD RESOLUTION ADOPTING THE WATER EFFICIENCY PLAN

EAST LARIMER COUNTY WATER DISTRICT

RESOLUTION NO. 2024-08-01

**(RESOLUTION OF THE EAST LARIMER COUNTY WATER DISTRICT
REGARDING ADOPTING A WATER EFFICIENCY PLAN)**

WHEREAS, the Board of Directors of East Larimer County Water District (“District”) recognizes the importance of conserving water and improving water use efficiency; and

WHEREAS, pursuant to HB 04-1365, adopted on June 4, 2004, a State-approved plan will qualify the District for future funding opportunities offered by the Colorado Water Conservation Board; and

WHEREAS, a Draft Water Efficiency Plan (“Plan”) that describes the role of water use efficiency plans in the District’s water supply planning was presented for review and comment at the Board meeting held on April 24, 2024; and

WHEREAS, a public notice announcing the availability of the Plan for review and comment was published and the Plan was publicly available for a period of not less than sixty (60) days; now, therefore.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE DISTRICT:

That the Board of Directors of the East Larimer County Water District hereby adopts the Water Efficiency Plan attached hereto.

Passed and adopted at a regular meeting of the Board of Directors of the East Larimer County Water District held this 20th day of August, 2024.

By: Loren R. Maxey
Loren Maxey, Board President

ATTEST: Mike Scheid
Mike Scheid, Secretary – General Manager

APPENDIX C
CWCB PLAN APPROVAL



COLORADO

Colorado Water Conservation Board

Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

October 9, 2024

Mike Scheid
East Larimer County Water District
232 South Link Lane
Fort Collins, CO 80522

Dear Mike Scheid:

The Colorado Water Conservation Board (CWCB) received a locally adopted Water Efficiency Plan from the East Larimer County Water District for review and approval. The CWCB has determined the Plan to be in accordance with 537-60-126 and the CWCB's Guidelines for the Office to Review Water Conservation Plans Submitted by Covered Entities. The Plan is hereby approved and the East Larimer County Water District may proceed with its implementation.

The Plan will be kept on file at the CWCB and shall be accessible to the public through our website and the Water Resource Information Center. The Plan will also be made available to the Colorado Water Resources & Power Development Authority and the Finance section within the CWCB should you apply for a loan from either agency. *This Plan will expire August 21, 2031.*

As the East Larimer County Water District begins implementing the efficiency measures outlined in the Plan, please know that the CWCB staff will be available to provide technical and financial assistance.

Thank you again for all your efforts in developing a Water Efficiency Plan. Should you have any questions or need additional assistance, please feel free to contact Sam Stein at sam.stein@state.co.us.

Sincerely,

Lauren Ris
CWCB Director

cc: Matt Stearns, CWCB Finance Section
Jim Griffiths, Colorado Water Resources & Power Development Authority
Melissa Tremelling, ELCO
Beorn Courtney, Element Water Inc.

