THE TOWN OF EATON COLORADO
Incorporated 1892

223 1st Street
EATON CO 80615
970.454.3338
Fax: 970.454.3339
www.eatonco.org

7/19/2019

Mr. Ben Wade, CWCB
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Town of Eaton Municipal Water Efficiency Plan Update

Dear Mr. Wade:

The Town of Eaton (Town) would like to submit a locally adopted Municipal Water Efficiency Plan Update for review and approval by the Colorado Water Conservation Board's (CWCB) Office of Water Conservation and Drought Planning. This letter is also intended to meet the Cover Letter Submittal Requirements for CWCB review.

Name and contact information:

Town of Eaton
Attn: Town Administrator, Jeff Schreier
223 1st Street
Eaton, CO 80615
T: (970) 454-3338
F: (970) 454-3339
Jeff@eatonco.org

List of organizations and individuals that assisted in plan development:

Clear Water Solutions, Inc.
Sira Sartori, Michelle Hatcher, and Steve Nguyen

Quantity of retail water delivery and population data summaries:

Summaries of the Town's water delivery and population data are provided in **Tables 1 and 2** below. Retail water demand (or total billed water usage) averaged 702 acre-feet (AF) in the previous six years. The Town has seen significant growth since 2012 and anticipates a 3.0% population growth into the future.

Table 1: Water Demand by Customer Category

Customer Category	2012	2013	2014	2015	2016	2017	Avg.
Residential (AF)	682	598	567	585	575	570	596
Commercial (AF)	47	40	38	39	38	36	40
Industrial (AF)	6	6	5	61	78	123	47
Sprinklers (AF)	24	20	19	19	18	17	20
Total Billed (AF)	759	664	630	704	709	746	702
Non-Revenue (AF)	50	61	99	83	97	77	78
Population	4,510	4,606	4,772	4,882	5,035	5,197	4,834
Residential (GPCD)	135	116	106	107	102	98	111
Total Billed (GPCD)	150	129	118	129	126	128	130

Table 2: Water Service Area Historical and Projected Population Estimates

Year	Population	Growth Rate
2012	4,510	1.6%
2013	4,606	2.1%
2014	4,772	3.6%
2015	4,882	2.3%
2016	5,035	3.1%
2017	5,197	3.2%
2018	5,800	11.6%
2019	5,974	3.0%
2020	6,153	3.0%
2021	6,338	3.0%
2022	6,528	3.0%
2023	6,724	3.0%
2024	6,926	3.0%
2025	7,133	3.0%
2026	7,347	3.0%
2027	7,568	3.0%

Note: the 2018 population spike is based on the Town's population estimate and represents an adjustment to the Colorado Department of Local Affairs historical data.

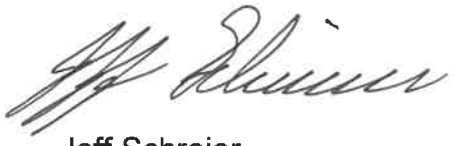
Public review and comment information:

The Town held its public review period from May 2nd, 2019 to July 3rd, 2019. Notification of the draft Plan and public review period was posted in the North Weld Herald. The notification announced the public review timeframe and stated a draft Plan would be available for the public to review at the Town Hall. The draft Plan was also posted on the Town's website. During the public review period, the Town received no comments on the Municipal Water Efficiency Plan Update.

The Town approves this Municipal Water Efficiency Plan Update and will commit the resources necessary, as they become available, for the implementation of the Plan.

Please let me know if you have any further requirements.

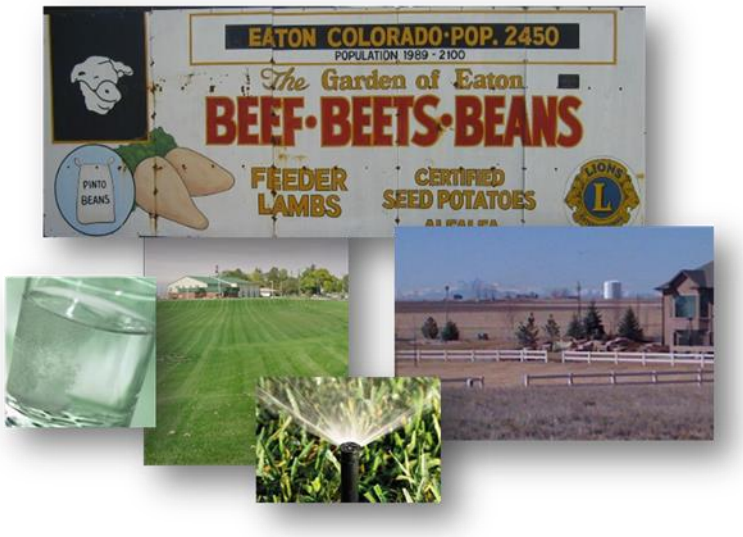
Sincerely,



Jeff Schreier,
Town Administrator

TOWN OF EATON

2018 MUNICIPAL WATER EFFICIENCY PLAN UPDATE



clearWATERsolutions
water rights • planning • engineering

8010 S. County Road 5, Ste. 105 Windsor, Colorado 80528
(T) 970.223.3706 (F) 970.223.3763
www.clearwatercolorado.com

EXECUTIVE SUMMARY

The Town of Eaton (Town or Eaton) is a growing community along the Front Range of the beautiful Rocky Mountains in Weld County, Colorado. The Town is conveniently located nearby the Cities of Fort Collins and Greeley along the Interstate 25 corridor. The Town sits along US Highway 85 and County Road 74 with a stunning view of the mountains in the distance. The water service area covers over 2,000 acres (nearly 3.2 square miles) and is anticipated to grow as the Town continues to develop new neighborhoods and business developments. The Town's water service area and Town limits are shown in **Figure 1** in Section 1.0 of this report. The Town serves a current population of approximately 5,800 residents and anticipates the population will grow to nearly 7,000 residents by the year 2027.

To help Eaton plan for future growth, the Town developed a Municipal Water Efficiency Plan Update (MWEP or Plan) in accordance with the Water Conservation Act of 2004 and to meet the provisions of Colorado Revised Statute section 37-60-126. As part of CRS 37-60-126, a State-approved Plan will qualify Eaton for funding from the Colorado Water Conservation Board (CWCB) and the Colorado Water Resources and Power Development Authority for water supply and delivery projects.

Eaton's goal is to optimize its water supplies and system through practical water efficiency activities. The benefits of these activities may include delaying the purchase of costly water supplies and infrastructure upgrades, reducing wastewater flows and treatment and associated costs, and improved water management and stewardship.

The Town's potable raw water is derived from Colorado Big-Thompson Project (C-BT) units and North Poudre Irrigation Company (NPIC) shares. The raw water supply is owned by Eaton but is diverted, treated and delivered to Eaton by the North Weld County Water District (NWCWD). Eaton's potable water supplies yield an average of over 1,600 acre-feet (AF) per year. This Plan will aid the Town in developing water efficiency activities that complement its existing comprehensive master planning activities and community goals.

In 2017, Eaton provided 746 AF of treated water to residential, commercial, industrial, and sprinkler customer categories. The annual treated water demand for the Town is expected to increase due to population growth and new development to approximately 977 AF by the end of this Plan's planning period, which extends to 2027. Water savings from this water efficiency planning effort is estimated to save a possible 128 AF per year. The savings from this planning effort will make a considerable contribution toward the water supplies needed to serve the 2027 demand.

This report documents Town's water system, past and future water use, and the water efficiency planning process used in accordance with CWCB's Municipal Water Efficiency Plan Guidance Document (*Guidance Document)*.

Past and Current Water Efficiency Activities

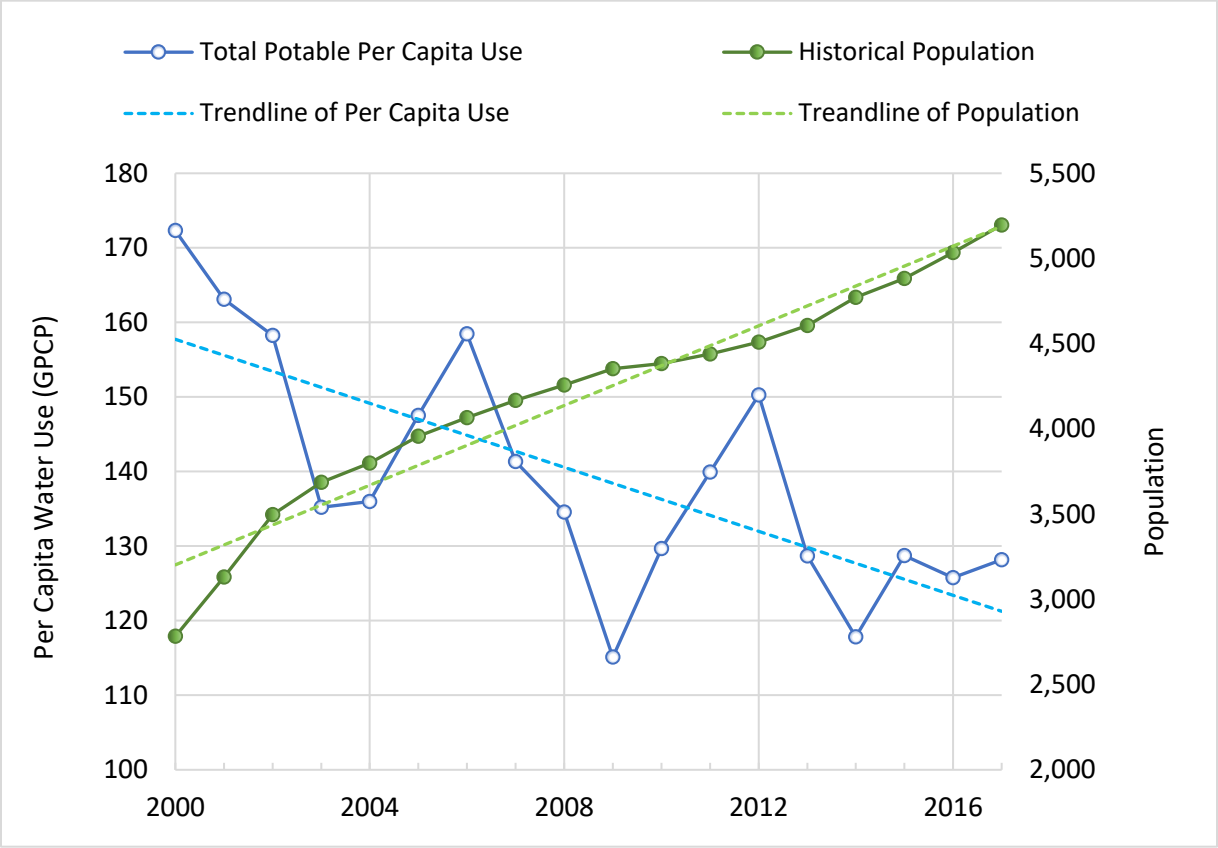
Eaton has implemented several water efficiency activities since its *2011 Water Conservation Plan*, such as automatic metering reading installation and operations, residential irrigation audits, xeriscape incentives and more. The water efficiency activities that have been historically implemented are shown in **Table ES-1**.

Table ES-1: Eaton's Existing and Ongoing Water Efficiency Activities

Water Efficiency Activities	Approx. Date of Implementation
Foundational Activities	
Automatic Meter Reading Installation and Operations	2014 and ongoing
Water Rate Study - Water Efficient Rate Structure with Regular Updates	Water Rate Study 2014
Leak Detection and Repair Program	Ongoing; 2011 and before
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	Water Master Plan 2002, Comprehensive Plan 2018
Non-Potable Well Meters at Subdivisions	2017 and ongoing
General Monitoring and Verification Activities and General Water Rates and Billing	Ongoing; 2011 and before
Targeted Technical Assistance and Incentives	
Slow the Flow Residential Irrigation Audits	2018
Xeriscape Incentives - Garden in a Box	2018
Ordinances and Regulations	
Weekly and Time of Day Outdoor Watering Restrictions	1984
Water Waste Ordinance	1961
Education Activities	
Interactive Webpages and Website Updates	2016

The water savings from these water efficiency activities are difficult to quantify and often cannot be estimated with reasonable accuracy. Specifically, the activities that are highly dependent on human behavior (e.g., public education programs) are challenging to estimate. Data specific to the Town's activities was not collected over time, and some activities are only implemented in certain years, such as Outdoor Watering Restrictions. Typically, a simple way to evaluate water savings is to calculate the total per capita water usage and observe the trends over time. In general, there has been a downward trend in total per capita treated water usage for Eaton since 2000 as shown in **Figure ES-1**.

Figure ES-1: Treated Water Use and Population Trends



Tracking residential per capita usage is another way to evaluate water savings. The residential per capita usage decreased by 27 gallons per day per person from 2011 to 2017. Some of the variability in the per capita water usage is likely linked to the yearly fluctuations in temperature and precipitation. For example, 2000 through 2003, 2006 and 2012 were dry years which may explain the spikes in per capita water usage. This may be linked to increases in outdoor water usage during dry years. Based on the cost-benefit analysis, the Town has saved approximately 66 AF per year from its existing activities for all customer categories.

A preliminary set of water savings goals were developed prior to the selection of the water efficiency activities for implementation to provide a means to screen and evaluate potential activities. A meeting was initially held with Town Staff to discuss water efficiency goals appropriate for Eaton. The following preliminary goals were established:

- The targeted water savings goal for this Plan will be to lower the treated water demand by 10% over the ten-year planning period, or approximately 1% per year.
- The targeted ten-year water reduction goals for the following customer categories were as follows:
    - Residential: 12%

    - Commercial: 5%
    - Industrial (does not include bulk water station): 3%
    - Sprinkler: 3%
    - Non-Revenue Water: 1%
- To develop a water efficiency program that can be implemented within Town staffing constraints and with Town Staff and Board approval.
- To implement water efficiency activities that are compatible with the community.
- To prioritize activities that include partnerships as the Town is actively seeking project partnerships with Northern Water.
- To develop a cost-effective program that achieves water savings goals while staying within budget constraints.

The success of the stated goals will be measured through monitoring of billing data, screening and evaluating activities that are acceptable to Town Staff, and soliciting Town Board and community feedback on water efficiency activities.

Eaton used a four-phase process to select and fully evaluate water efficiency activities for implementation in this Plan. The four phases included: 1) assessment; 2) identification; 3) qualitative screening; and 4) evaluation and selection. This process is recommended in the *Guidance Document*.

The initial screening of the water efficiency activities with Town Staff resulted in selecting 29 candidate activities for further evaluation. Two activities were eliminated after the evaluations, but may be reevaluated with future planning efforts. Some of the activities were combined to simplify the evaluations. The second screening was accomplished by evaluating each activity based on the following criteria: financially feasibility/implications, Staff availability, Staff and Board approval, existing or planned Town projects, partnership possibility and applicability to the Town of Eaton. The 27 activities selected for implementation were combined into a total of 23 activities, as follows:

- System wide water audits
- Automatic Meter Reading Installation and Operations
- Advanced Meter Reading Installation and Operations
- Water Rate Study – Water Efficient Rate Structures with Regular Updates
- Leak Detection and Repair Program
- Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans
- Drought Management Plan
- Non-Potable Account Meters at Subdivisions
- General Monitoring and Verification Activities and General Water Rates and Billing
- Slow the Flow Commercial Irrigation Audits
- Slow the Flow Park Irrigation Audits
- Slow the Flow Residential Irrigation Audits
- Giveaways: Water Audit Kits.

- Xeriscape Incentives – Garden in a Box
- Outdoor Irrigation Controllers and Rain Sensors – Giveaways or Rebates
- Weekly and Time of Day Outdoor Watering Restrictions
- Water Waste Ordinance
- Landscape Design Ordinances and Restrictions
- Town Facility Requirements
- Public Education Activities
- Children's Water Fair or Festival
- Post or Distribute ET Irrigation Scheduling
- Xeriscape Demonstration Garden

Table ES-2 compares the initial water savings goals at the beginning of this planning effort to the water savings goals projected for the selected activities for implementation. Over a ten-year period, the selected activities could provide an overall water savings of 1,301 AF. This is an overall reduction from its forecasted water use by 15% from implementation of the 23 selected activities in this Plan.

Table ES-2: Water Efficiency Goals Comparison

Water Use Categories:	Total Projected Water Use (2018 to 2027)	Reduction Goals for Planning Horizon		Adjusted Reduction Goals for Planning Horizon	
				Total Water Savings from Activities	Resulting Reduction
	(AF)	(%)	(AF)	(AF)	(%)
Residential	6,727	12%	807	1,135	17%
Commercial	383	5%	19	44	11%
Industrial	58	3%	2	5	9%
Sprinkler	184	3%	6	21	11%
Non-Revenue Water	1,084	1%	11	95	12%
Total:	8,437		845	1,301	

Implementation and Monitoring Plan

The implementation plan defines the process necessary to carry out the selected water efficiency activities. The Town Administrator and Assistant Town Administrator will be chiefly responsible for coordinating and delegating tasks to Town Staff to implement this Plan. Other departments, such as Public Works, will have roles in implementing some of the selected activities as well, specifically activities related to parks and the Town's distribution system. For some activities, the Town Staff may partner with other organizations. The Town intends to implement its selected Foundational Activities in the next ten years, Targeted Technical Assistance and Incentives activities in the next five years, Ordinances and Regulations and the Education Activities in the next three years.

A monitoring plan outlines the Town's process to monitor the progression of the implementation plan. Monitoring various types of data is beneficial in tracking the water savings generated from implementing an MWEP. Eaton monitors the produced treated water and the total billed water by customer category on an annual and monthly basis. Eaton also tracks the number of taps per customer category and the Town's population. The demand data, which will be collected during the monitoring period of the Plan, is presented in **Table ES-3**.

Table ES-3: Selection of Demand Data for Efficiency Plan Monitoring

Monitoring Data	HB 10-1051 Reporting Requirement				Selection			
	Annual	Monthly	Bi-Monthly	Daily	Annual	Monthly	Bi-Monthly	Daily
Total Water Use								
Total treated water produced (metered at WTP discharge)					X	X		
Total treated water delivered (sum of customer meters)	√				X	X		
Per capita water use					X			
Non-revenue water	√				X			
Water Use by Customer Type								
Treated water delivered		√			X	X		
Residential per capita water use					X			
Unit water use (e.g. AF/account or AF/irrigated acre)					X			
Large users					X	X		
Other Demand Related Data								
Population					X			
New taps					X	X		

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INTRODUCTION

The Town of Eaton (Town or Eaton) is a growing community along the Front Range of the beautiful Rocky Mountains in Weld County, Colorado. The Town is conveniently located nearby the Cities of Fort Collins and Greeley along the Interstate 25 corridor. The Town sits along US Highway 85 and County Road 74 with a stunning view of the mountains in the distance.

Eaton began as an agricultural community on the eastern plains of Colorado and soon became a mainline for the Union Pacific Railroad as a shipping hub. The Town was incorporated in 1892 and developed the first sugar factory in Weld County, Colorado in 1902. The sugar factory doubled the population of the area. The agricultural foundation still remains a strong focus for the Town. Approximately 5,200 residents call Eaton home and value its friendly small town environment and close proximity to Colorado's best amenities. As the Town continues to grow and welcome new community members, the need for reliable water supplies also grows.

Eaton's goal is to optimize its water supplies and system through practical water efficiency activities. The Town has determined that implementing a water efficiency plan for its service area will maximize its available water while planning for future use and during times of drought. The benefits of water efficiency activities may include delaying the purchase of costly water supplies and infrastructure upgrades, reducing wastewater flows and treatment and associated costs, and improved water management and stewardship. The purpose of this Municipal Water Efficiency Plan (MWEP or Plan) is to guide Eaton in the process of water efficiency planning and implementation. Additionally, within their agreement with North Weld County Water District (NWCWD), the Town has agreed to create and implement an MWEP. The Town completed a Water Conservation Plan in 2011 and this 2018 MWEP serves as an update to the original plan. The planning horizon for this Plan is ten years, from 2018 to 2027.

In this Plan, the Town of Eaton will perform the five steps of municipal water efficiency planning as outlined in the MWEP Guidance Document (*Guidance Document*); 1) profile of existing water supply system, 2) profile of water demands and historical demand management, 3) integrated planning and water efficiency benefits and goals, 4) selection of water efficiency activities, and 5) implementation and monitoring plan. The Town has made many proactive conservation efforts to date and will continue this commitment into the future.

Prior to 1984, the Town's sole source of water was from wells. Since then, Eaton has developed a supply of Colorado Big Thompson Project (C-BT) water that is treated and delivered by NWCWD.

Additionally, Eaton own shares in the North Poudre Irrigation Company (NPIC); the Town uses the C-BT component of NPIC while leasing the agricultural component back to farmers. The Town has several subdivisions that utilize non-potable water for irrigation as well.

Since Eaton's *2011 Water Conservation Plan*, the Town made efforts to improve its overall water use efficiency. In 2018, Eaton participated in the Resource Central's (ReCen) "Slow the Flow" program and "Garden in a Box" program after receiving a grant to cover a limited number of residents. The Slow the Flow program is categorized as 'outdoor residential audit kits' in the *2011 Water Conservation Plan*. This program offers homeowners free consultations for in-ground sprinkler systems to improve water savings, save money and maintain green lawns. The Garden in a Box program provides garden kits with xeric (low water) starter plants for the Town's residents and homeowners' associations. The kits are used to replace traditional landscaping with low-water plants to reduce watering requirements. Several varieties of brightly-colored plant mixes are available through the Garden in a Box program. The kits also include educational resources about conservation practices and Xeriscape practices.

As part of the previous planning effort, the Town completed a water rate study in 2014. A water rate study was categorized as a 'regulatory standards program' in Eaton's *2011 Water Conservation Plan*. Eaton did not ultimately implement a tiered water rate structure; however, the Town intends to update the plan and reevaluate a tiered structure. As part of the "educational programs" in the Town's previous Plan, Eaton added a conservation webpage on its website with useful links to various resources, such as the ReCen and Colorado WaterWise websites. Town staff have also been working closely with the Northern Colorado Water Conservancy District (Northern Water) to partner on various water efficiency activities in the future.

The Town began installing meters on some of its non-potable wells as part of the "utility maintenance programs" at the Governor's Ranch and Aspen Meadows subdivisions. When the installation is complete and a fee structure is set up, the Town intends to meter the water use. Eaton anticipates installing additional meters to measure water use of its non-potable water supplies as part of this Plan Update.

In the development of this Plan Update, several documents and sources were reviewed and utilized to develop the recommended water conservation activities. The Colorado Water Conservation Board (CWCB) *Guidance Document* was used as a guide to develop this Plan. The Town's *2018 Comprehensive Plan*, *2011 Water Conservation Plan*, water usage data, contract documents and water rights information were used as informational resources. Eaton's website and other web pages were also used for additional information to help in this planning effort. There are many acronyms, terms, and terminology that are commonly used in water efficiency and water planning, and some additional terms are common in this geographical area; a list of terms and definitions is included in **Appendix A**.

SECTION 1.0 – PROFILE OF EXISTING WATER SUPPLY SYSTEM

1.1 Overview of Existing Water Supply System

Service Area

The Town of Eaton is located in Northern Colorado approximately 63 miles north of Denver and 25 miles southeast of Fort Collins. The Town is rooted in agriculture on the eastern plains, but is easily accessible to everything Colorado has to offer from US Highway 85. Eaton is located within the scenic Cache la Poudre River Basin, which is tributary to the South Platte River. The South Platte River is considered over-appropriated, meaning the natural streamflow is not sufficient to meet all the needs of water users in the river basin. The Town recognizes the value and need for water conservation as a part of its overall future development, especially as new water sources become more expensive and less available with time.

The Town serves a current population of approximately 5,800 residents[1]. The water service area covers over 2,000 acres (nearly 3.2 square miles) and is anticipated to grow as the Town continues to develop new neighborhoods and business developments. The water service area boundary is approximately the same as the Town limits and is generally bounded by County Road 78 to the north and County Road 72 to the south; with Highway 85 running through the center. The Town's water service area and Town limits are shown in **Figure 1** on the following page**.**

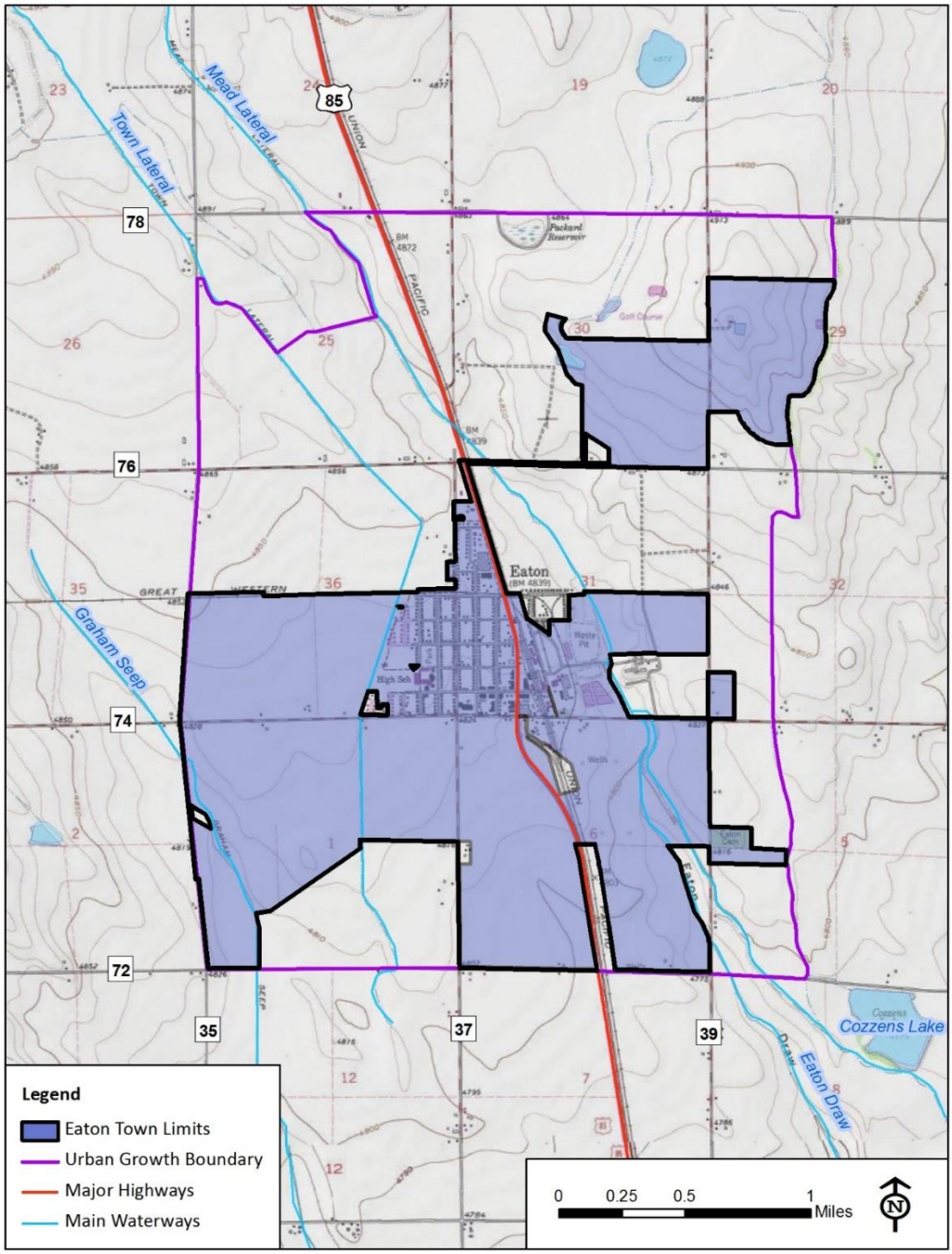
Eaton Town Hall

The Town also serves potable water to a small development adjacent to the Town limits and provides a bulk water station for industrial and commercial users to haul water to off-site projects.

The Town has identified a future urban growth boundary in its *2018 Comprehensive Plan*. The urban growth area encompasses nearly 6.9 square miles. **Figure 1** delineates the Town's anticipated urban growth boundary.

[1] 2018 population estimate from the Town.

Figure 1: Town of Eaton Limits and Service Area



Within the 4,800-acre planning area for the Town of Eaton, there are approximately 3,200 acres of planned residential development and 420 acres of planned commercial/industrial area. The remainder of the land is designated open space, public use or currently unclassified.

Water Supply

The Town's potable raw water is derived from the C-BT units and NPIC shares. The potable raw water supply is owned by Eaton but is diverted, treated and delivered to Eaton by the NWCWD. Eaton's potable water supplies yield an average of over 1,600 acre-feet (AF) per year. The raw water supplies owned by the Town are shown in **Table 1**.

Table 1: Summary of Eaton's Potable Water Supply

		Yield per Share or Unit (AF per Year)		Eaton's Total Yield (AF per Year)	
Water Right Name or Source	No. of Shares or Units Owned	Average Year Yield	Firm or Dry-Year Yield	Average Year Yield	Firm or Dry Year Annual Yield
C-BT	936	0.7	0.5	655	468
NPIC - C-BT Component	182	0.7	0.5	510	364
NPIC - Agricultural Component	182	2.5	0.5	455	91
			Potable Total =	**1,620**	**923**

**Note: Each share of NPIC has four C-BT units; therefore, the yield per share is multiplied by four.*

Eaton also has a non-potable supply of water evaluated within this Plan. The non-potable supply is used to irrigate community parks in Eaton's subdivisions. Non-potable irrigation is the second largest water use in the Town after residential uses.

C-BT Project Water Supply

Northern Water manages the C-BT Project, which imports an average of 213,000 AF of water from the Western Slope to the Eastern Slope of Colorado across the Continental Divide. It captures melting snow in the upper Colorado River Basin for use in the South Platte River Basin. It is the largest trans-mountain water diversion project in Colorado and was constructed by the Bureau of Reclamation between 1938 and 1957. This water provides a supplementary source each year to several public and private water users along the northern Front Range and northeastern Colorado for agricultural, municipal, and industrial uses. The C-BT consists of 310,000 units. The yield of each C-BT unit is determined by the annual "quota" and is established each year by the Northern Water Board through what is known as the quota setting process. The commonly used average quota is 70%. A 50% quota is what most water provider's use as the firm yield for C-BT units. Eaton currently owns 936 C-BT units.

NPIC Water Supply

The NPIC is a mutual ditch company delivering water to its stockholders, which serves over 250,000 people and 23,000 acres of agricultural lands. The system includes 19 reservoirs and approximately 200 miles of canals. Municipal ownership in the NPIC has increased over the years and as of 2015, is currently at approximately 75% with the remaining 25% in agricultural uses. The NPIC receives water from two main sources: natural streamflow originating in the North Fork of the Cache la Poudre River and from ownership of 40,000 C-BT units; therefore, the NPIC shares include a native agricultural

portion[2] and a C-BT portion. The Livermore diversion is used to divert the NPIC's North Fork water rights into the system and the Munroe Canal is used to divert its Cache la Poudre River water rights including C-BT water.

The C-BT water is delivered equally among the 10,000 shares within the NPIC system. Delivery of the C-BT portion can be taken anywhere that C-BT units can be delivered, so an entity outside of the NPIC service area can actually own NPIC shares and lease the native portion back to shareholders within the NPIC service area. Eaton currently owns 182 NPIC shares.

Based on the Water Service Agreement between Eaton and the NWCWD, the Town provides raw water in the amount of 110% of the total measured potable water usage at the master meter for the previous year, plus any anticipated increases in use. The 10% is used to cover shrinkage that occurs as the water is being delivered from the water treatment plant (WTP) to Eaton's master meter.

Non-Potable Well Supply for Irrigation

Currently, the Town utilizes its wells for non-potable irrigation water within several of its subdivisions such as Maplewood, Governors Ranch, Aspen Meadows, Hawkstone and Eaton Commons. In addition, Hawkstone owns several shares of agricultural water it uses for irrigation of its park as well as some of its lots; however, its water rights are not included in this Plan. The non-potable water at Governors Ranch, Maplewood and Aspen Meadows is used to irrigate individual homeowner lots and local parks. Eaton Commons only irrigates its park with non-potable water while individual homeowner lots are served with potable water. Eaton also irrigates Town parks using a non-potable supply; however, the Town did not have any data related to water use at Eaton Park, Centennial Park and Railroad Park.

Well Supplies

The Town could utilize its wells for potable purposes if treated to drinking water standards. Eaton has studied the possibility of using a reverse osmosis treatment system to treat its wells in the future.

Key Existing Facilities

After treatment at the NWCWD facility, Eaton's potable water supply is measured at the Town's master meter to measure produced water. The Town is responsible for operating and maintaining its distribution system to its customers after the master meter. The Town has one distribution system that consists of older four-inch pipe constructed out of cast iron and steel to more recent eight to twelve-inch PVC pipes. Eaton has two storage tanks: one 1.5 million gallon (MG) in the northeast part of Town and another 2.6-MG tank near the southwest part of Town. The 2.6-MG tank's location was chosen because of a future connection with NWCWD as they are proposing a new 30-inch line extending from Eaton. The tanks allow the Town to reduce peak flow demands. However, on occasion the Town's demand comes close to reaching the maximum daily flow.

[2] The native agricultural portion is natural streamflow occurring in the Cache la Poudre River Basin

There are currently five subdivisions in Eaton that have dual distribution systems. Dual systems employ two sources: one treated water system for potable use, and another system of untreated raw water for irrigation purposes. The dual systems for the Governor's Ranch, Maplewood and Aspen Meadows subdivisions are operated by the Town while the system for the Hawkstone subdivision is operated by both the Homeowners' Association and the Town. Since the *2011 Water Conservation Plan*, the Town has expanded new pipes to the Aspen Meadow subdivision; otherwise, no major infrastructure has been constructed.

The Town's wastewater treatment plant (WWTP) is an Aero-Mod treatment plant with the capacity to treat 750,000 gallons per day. The plant operations can be expanded to treat up to 1.5 MG per day to accommodate future growth within the Town.

1.2 Water Supply Reliability

Water Supply Gap

Water supply reliability is the ability of the Town's water supplies to meet the needs of its customers during times of stress and to sustain future growth. In 2003, the Colorado General Assembly authorized CWCB to implement the Statewide Water Supply Initiative (SWSI) as a result of growing pressure on water supplies in Colorado and the 2002 drought. The study identified current and future water demands, available water supplies, and existing and planned water supply projects in eight major river basins in the State. SWSI was updated to SWSI 2010, which projects demands to 2050 and includes passive water conservation savings. Passive savings includes such things as future development using more efficient water fixtures in their building process.

The SWSI 2010 report identified a 58% gap between water needs and water supplies in the South Platte River Basin by 2050. Water efficiency is one method the SWSI report identified for meeting this gap. Similarly, Colorado's Water Plan 2015 also identified water conservation as a key part of meeting the gap between supply and demand. Lowering the per capita water demand through conservation helps efficiently manage and maximize the water supply.

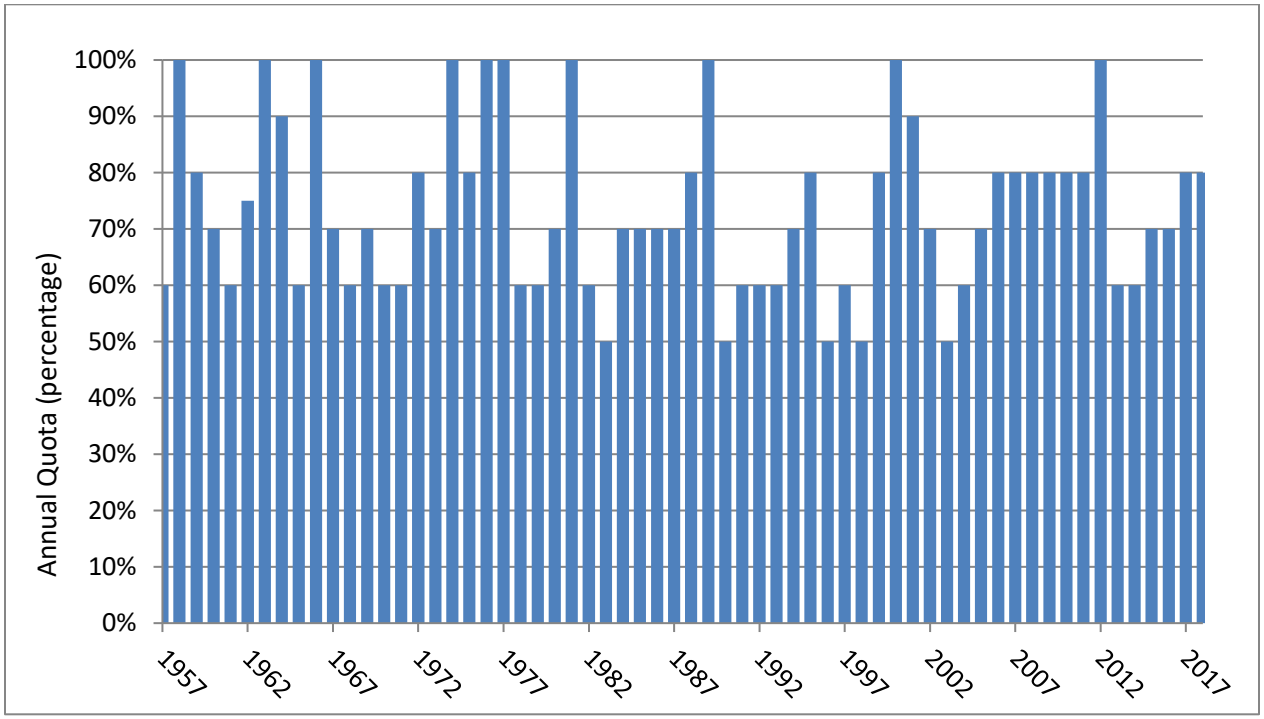
Current Water Supply Reliability

C-BT Project Water Reliability

The Northern Water Board examines the region's native supplies and local storage before declaring a quota that meets the supplemental need of the region as a whole. The basis for setting the quota is to attempt to make every year look like an average year. As a result, the quota is typically lower in wet years because native supplies are plentiful and local reservoirs are full, so less C-BT water is required to satisfy water demands. In dry years, the quota is typically higher to meet the higher demand for water. As C-BT continues to transfer from agricultural to municipal use, the landscape of using the Project as a supplemental supply is changing.

The C-BT Project system has approximately 740,000 AF of gross storage. There is approximately 2.3 times the storage than would be needed to deliver a 100% quota. This gives the C-BT system some drought reliability. In over 50 years of C-BT Project operation, the average yield has been 0.73 AF per unit (238,000 gallons) and the commonly used average quota is 70%. The yield has never been less than 0.50 AF per unit (50% quota) or more than 1.0 AF per unit (100% quota). Most providers use a 50% quota to estimate the firm yield for C-BT units. **Table 1** shows Eaton has a firm C-BT yield of 468 AF (not including NPIC shares). The historical annual quota established by the Northern Water Board is shown on the following **Figure 2**.

Figure 2: Historical C-BT Quotas (1957 – 2017)



NPIC Water Supply Reliability

The NPIC's water supply is dependent on streamflow conditions in the Cache la Poudre River Basin and the annual C-BT quota. NPIC has numerous reservoirs with an estimated total storage capacity of 63,000 AF. The average and dry-year yield were provided from the NPIC and are listed in **Table 1**. Eaton owns 182 shares of NPIC that equate to an average annual yield of 965 AF.

Agreement with NWCWD

Eaton's water service agreement with the NWCWD has a clause that limits Eaton's water deliveries to a 10% increase from the average minimum flow over the previous three years. This means if NWCWD would enforce this clause, the Town will not be able to grow more than 10% per year assuming the per capita water use stays the same.

Eaton is also limited to water sources that can be treated within NWCWD's system such as C-BT, Windy Gap and/or Northern Integrated Supply Project (NISP) water.

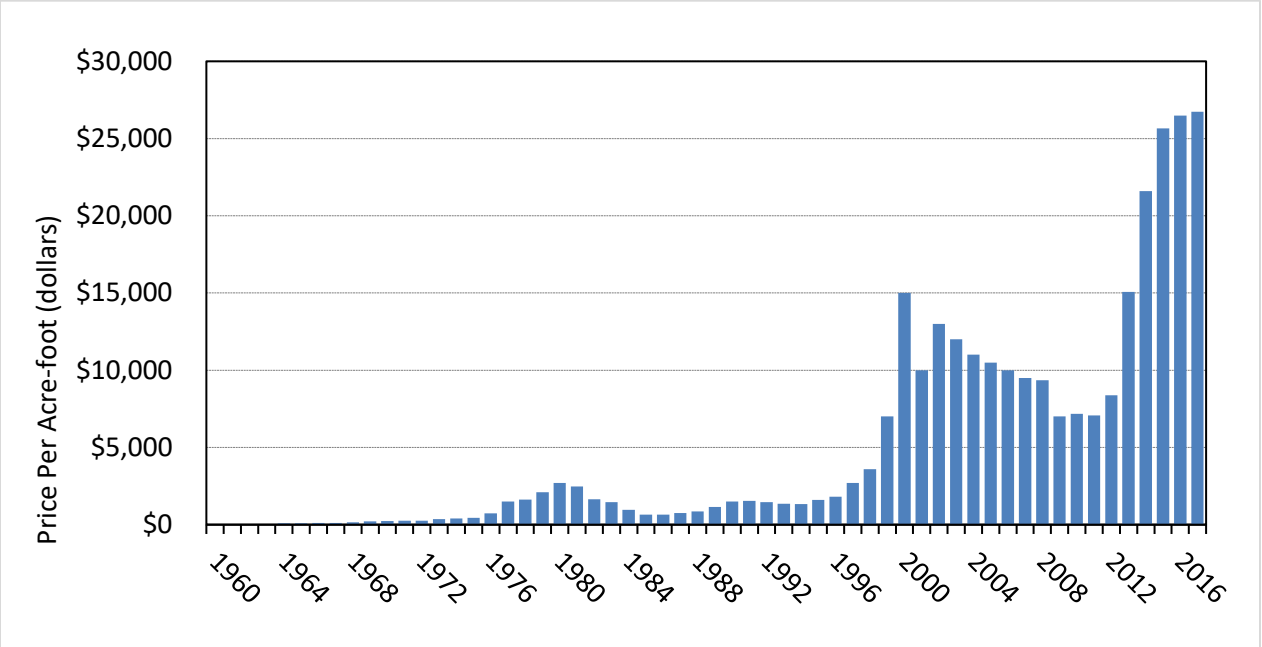
1.3 Supply-Side Limitations and Future Needs

Water Supply Limitations

One water supply limitation is the physical supply of Eaton's C-BT water. C-BT units are stored in Lake Granby on the Western Slope of Colorado. Should a fire ever occur in that area, water quality would be a major issue for C-BT Allottees and the NPIC as its shares consist of a C-BT component. There is a large amount of beetle kill to trees surrounding Lake Granby, Grand Lake, and other C-BT Reservoirs. This beetle kill poses a potential increase risk of fire. Eaton would have to treat large quantities of water degraded from ash and soot runoff. This has been an ongoing issue for other water treatment facilities when fire has been present in a basin used for raw water supply. In addition, East Slope C-BT storage, once segregated from the system to avoid contamination, is not enough storage to meet demands, particularly in a drought. In the same respect, a wildfire in the Cache la Poudre River basin could impact the water quality of the native agricultural portion of the NPIC shares.

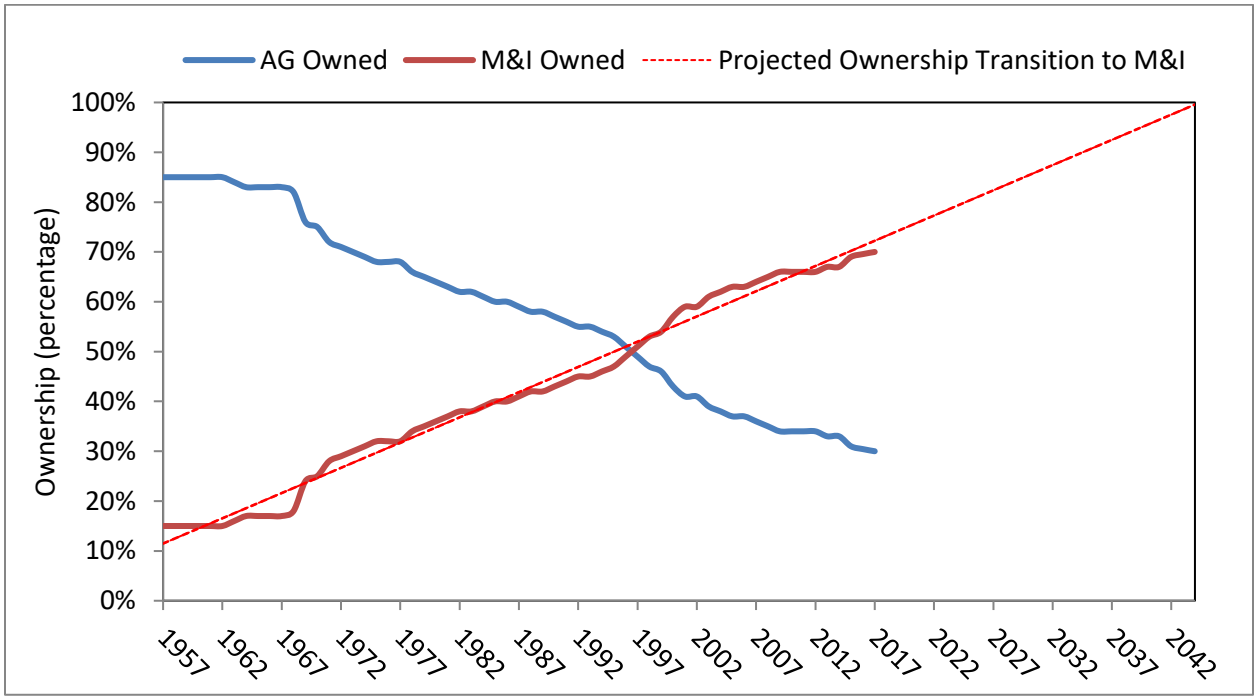
Another key limitation in developing Eaton's water portfolio is the significant price increase for municipal water along the Front Range of Colorado. This is evident in the price of C-BT units. In 1965, C-BT water could be purchased for $100 per AF while a recent acquisition of C-BT units was approximately $32,000 per unit. This equates to $64,000 per AF at a 50% firm yield. Since C-BT water is so versatile, the market value of its units has increased and is a good indication of the price for municipal water. **Figure 3** shows how the price of C-BT units has varied from 1960 to 2017. The price per AF was driven up significantly in the early 2000s and then again in 2013 when the value nearly doubled following the 2012 drought.

Figure 3: Historical Market Price of C-BT Project Water (1960 – 2017)



As reflected in the price increases, C-BT units are in great demand and are converting from agricultural (AG) use to municipal and industrial (M&I) use rapidly. At the current rate of acquisition, it is projected that minimal (if any) C-BT units will be available by the year 2045. The transition is illustrated in **Figure 4**.

Figure 4: C-BT Ownership Transfer



The NPIC water supply limitations are similar to those of the C-BT Project water. The shares have shifted from agricultural use to municipal use which typically drives up the price per share, making it challenging to obtain additional shares. The current split is 75% of the shares are owned by municipalities and 25% are owned by agricultural users. The NPIC shares are also dependent on weather and streamflow conditions each year. According to the NPIC staff, in extremely dry years, the yield of one share can decrease to 1.0 AF. A combination of several dry years in the 2000s and high population growth has made water supply very competitive along the Front Range.

Town System Limitations

System limitations can provide insight into how and where to set water efficiency goals within a municipal system. Ideally, water efficiency activities can help mitigate a portion of the limitations and improve the reliability and efficiency of the system overall.

Potential issues related to the adequacy and reliability of Eaton's water system is that the Town is solely reliable on NWCWD to treat and deliver its water. All of the Town's C-BT water is treated by NWCWD. The services agreement between Eaton and NWCWD sets forth a maximum annual and peak demand limit of 365 MG and 1,389 gallons per minute (gpm), respectively. According to Town Staff, they have reached the peak demand limit during high use in the summer months. Currently, Eaton can only buy water that NWCWD is able to treat and deliver within its system. The Town may build a WTP in the future. However, it's not anticipated during this planning period. In addition, the non-potable outdoor use in the summer taxes the Town's pumps and when a maximum rate is reached, the Town experiences low pressure issues.

In the next two years, Eaton anticipates the NWCWD will have an additional 30-inch water line to Eaton's west water tank, which will help the Town in meeting its peak demands. Currently, water is treated by the NWCWD and delivered through one main line to Eaton's water tanks. Once the additional line is constructed, Eaton will be able to deliver more water per hour to its tanks. This will help the pressure issues encountered during the summer months. The Town Staff believe the additional connection main will eliminate this issue. A summary of water supply and system limitations is provided in *Worksheet A* (from the *Guidance Document*) in **Appendix B**.

Future Water Supplies

The Town's proposed participation in NISP will help bolster Eaton's water supply for future growth. NISP is a regional project that is being financed and will be owned by fifteen municipalities and water districts in Northern Colorado. It includes two reservoirs, water rights on the Cache la Poudre River and South Platte River, and exchanges with two local ditch companies. NISP is currently in the National Environmental Policy Act (NEPA) permitting process; the Final Environmental Impact Statement was released by the U.S. Army Corps of Engineers in July 2018. Northern Water is the entity pursuing the permitting and construction of NISP on behalf of the participants. Northern Water anticipates the final Record of Decision by the Army Corps of Engineers in 2019. Construction of this project will occur only if permits are obtained from the federal government and all NEPA requirements are satisfied. This will involve a

large capital outlay from participating entities in the short-term, but will provide water supply well past 2027. NISP participants are strongly encouraged by Northern Water to have current MWEPs to demonstrate efficient water use of each participant's water supplies.

The Town Staff believe adding the NISP water supply will be sufficient to meet the Town's water demands during this Plan's planning period. A combination of this additional water source and new and existing water efficiency efforts will help the Town to address future water supply limitations and challenges.

SECTION 2.0 – PROFILE OF WATER DEMANDS AND HISTORICAL WATER EFFICIENCY ACTIVIES

2.1 Demographics and Key Characteristics of the Water Service Area

Population and Demographics

All of the Town's citizens are served by Eaton's potable water supply so the water service area population is approximately equal to the Town population, estimated at 5,197 for 2017. The Town also provides potable water to a subdivision adjacent to the Town that consists of 42 taps. The number of people served by these taps is not included in the Water Service Area population as it is relatively small. The Town has doubled in size since the year 2000 with a steady increase in population each year. The historical population from 2011 through 2017 of the Town and its Service Area are presented in **Table 2**.

Table 2: Town and Water Service Population (2011 – 2017)

Year	Total Town Population	Change in Population	Population Growth
2011	4,439	55	1.25%
2012	4,510	71	1.60%
2013	4,606	96	2.13%
2014	4,772	166	3.60%
2015	4,882	110	2.31%
2016	5,035	153	3.13%
2017	5,197	162	3.22%

Note: Out-of-town customers not included. Data from the Colorado Department of Local Affairs.

Eaton is largely single-family detached homes with a small number of duplex and multi-family homes. Most homeowners also use the Town's potable supply for outdoor irrigation; however, there are currently four subdivisions in Eaton that have dual water systems. Approximately 3% of the Town's existing lands consist of commercial businesses serving the local community. Industrial water users in the Town are primarily situated near access to the rail lines and U.S. Highway 85.

Billing System

The Town's current utility billing system does not allow for differentiation between customer categories for billing potable water deliveries. Instead, Eaton maintains an inventory of the number of taps by customer categories. Taps are categorized into residential, commercial, industrial and sprinkler. There is also a country

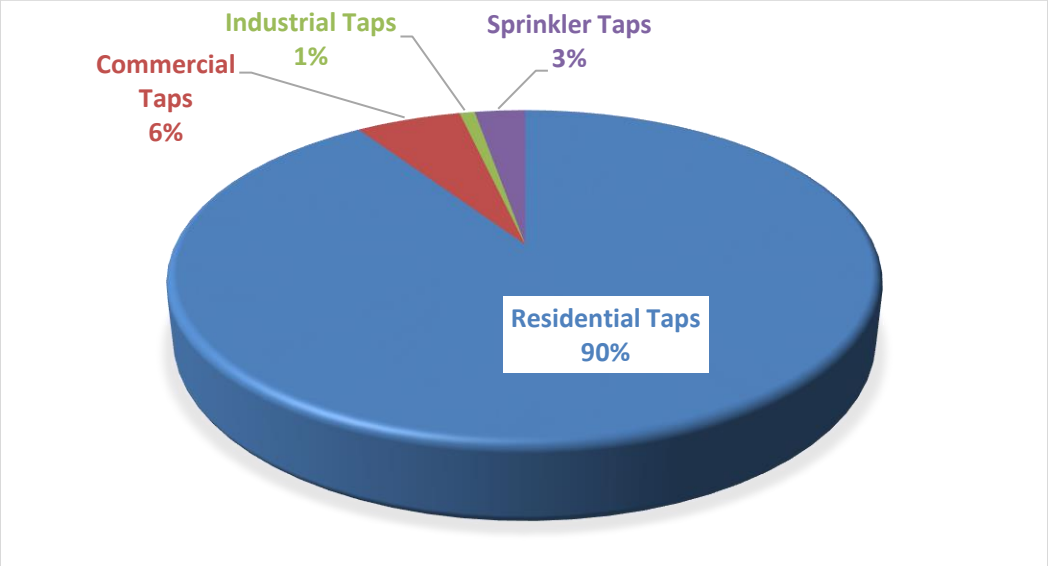
category which is lumped into residential water use in this Plan. Since the billing system tracks taps but not the water use per tap, the water use by customer category was based on estimated volumes per tap category. Eaton currently serves approximately 2,177 potable and non-potable taps with a large majority of those taps providing water to residential water users. There are 125 commercial taps with low water use. **Table 3** is a summary of the taps for the past seven years. Residential taps comprise 90% of the taps in the Town of Eaton as shown in **Figure 5**.

Table 3: Taps by Customer Category (2011 - 2017)

Year	Potable - Residential Taps	Potable - Commercial Taps	Potable - Industrial Taps	Potable - Sprinkler Taps	Total Taps
2011	1,636	117	16	60	1,829
2012	1,699	117	16	60	1,892
2013	1,750	117	17	60	1,944
2014	1,783	121	17	60	1,981
2015	1,836	122	17	60	2,035
2016	1,881	124	18	60	2,083
2017	1,974	125	18	60	2,177
Average	1,794	120	17	60	1,992

**Note that residential taps include "country" taps.*

Figure 5: Percentage of Taps by Customer Category (2017)



Water Rates

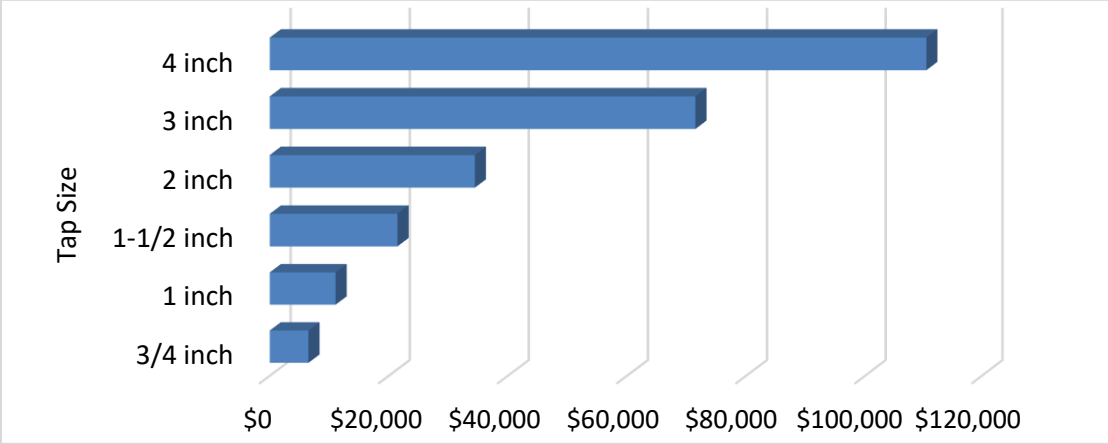
Residential water users are equipped with individual meters. The Town's water rates are composed of a minimum base charge and a charge for each additional 1,000

gallons used. **Table 4** provides Eaton's current residential water rates. Eaton's tap sizes range from ¾-inch to 4-inch taps and the fees for each size are shown in **Figure 6**.

Table 4: Water Charges

Base Rate – includes 4,000 Gallons	Rate per 1,000 Additional Gallons
$35.14	$5.75

Figure 6: Tap Fees



Irrigation fees are charged to the Maplewood, Aspen Meadows and Governor's Ranch subdivision lots. Fees are assessed based on the lot sizes in **Table 5**.

Table 5: Irrigation Fees

Lot Size (sq. ft.)	Irrigation Fee
0-4,000	$12.00
4,001-8,000	$14.00
8,001-12,000	$16.00
>12,000	$18.00

2.2 Historical Water Demands

Water Use Data

Historical treated water for the Town is provided by the NWCWD. The total billed water use is from the Town's billing system. The difference between the total treated water at the WTPs and the water billed is considered non-revenue water. Non-revenue water consists of unbilled uses (such as hydrant flushing) or unaccounted for water in the system (such as errors in meter readings).

Demand Data Limitations

The Town's current utility billing system does not classify water use into customer categories. Instead, the billing system output is the total water use for the Town per month and year. Eaton maintains an inventory of the number of water taps which are categorized by customer type into residential, industrial, commercial or sprinkler. The water use per customer category is estimated in this Plan based on the number of taps. There was an error in the 2011 water use data; therefore, 2011 data was removed from 2011 through 2017 averages. Non-potable water use is not currently metered, although some wells have meters installed to-date. One of the Town's goals is to meter non-potable water use for irrigation.

Total Annual Treated Water

Total Treated Water and Billed Water

The total annual potable water delivery is derived from data provided to Eaton from the NWCWD. The actual water usage by customers is determined using Eaton's billing system data. The difference in the treated water delivery from NWCWD and the billed water volume is considered the non-revenue water. On average, Eaton's treated water delivery is 780 AF per year and the total billed water usage is 702 AF per year. **Table 6** is a summary over the last seven years.

Table 6: Total Treated Water Delivery Summary

Year	Total Potable Water Delivery from the NWCWD (AF)	Total Potable Water Usage (Billed to Customers) (AF)	Annual Non-Revenue Water (AF)	Percentage of Non-Revenue Water (AF)
2011	713	696	-	-
2012	809	759	50	6%
2013	725	664	61	8%
2014	728	630	99	14%
2015	787	704	83	11%
2016	806	709	97	12%
2017	823	746	77	9%
Average 2012-2017	780	702	78	10%

Notes:
(1) In 2011, there was an error in the readings; therefore, these values are estimates and not included in the average.

(2) Total potable water delivery is the NWCWD metered volume.

(3) Total potable water usage is the volume used by customers.

(4) The non-revenue volume is shown on an annual basis; therefore, there could be more variation month-to-month.

Non-Revenue Water

Eaton's system losses have averaged 10% for the last six years (as shown in **Table 6**), which is considered good by industry standards. There are two types of water losses

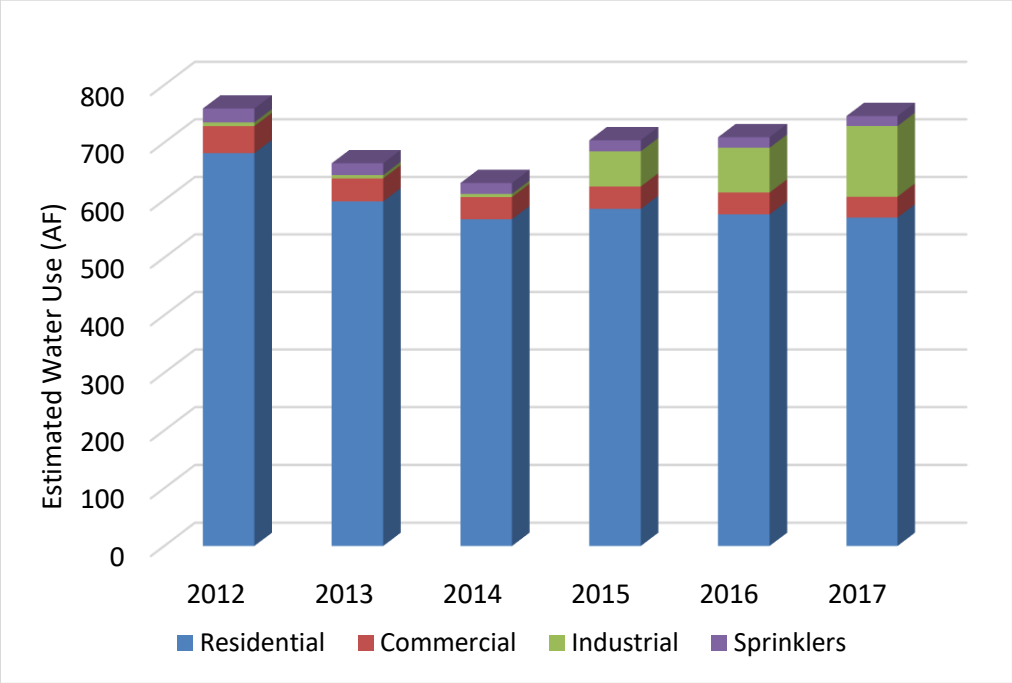
that occur in municipalities, apparent losses and real losses. Apparent losses are "paper" losses that can be caused by customer meter inaccuracies, billing system data errors or unauthorized consumptions. Real losses are those that are physically lost within the distribution system, including the water treatment process.

Annual and Monthly Treated Water Use by Customer Category

Treated Water by Customer Category

As mentioned, the Town's current billing system does not allow for differentiation between customer categories for potable water deliveries. Therefore, to determine the annual water use by customer category, the total water use was pro-rated using the tap distributions provided in **Table 3**. The estimated water use for all the customer categories is provided in **Figure 7**.

Figure 7: Treated Water Use by Customer Category (2012 - 2017)



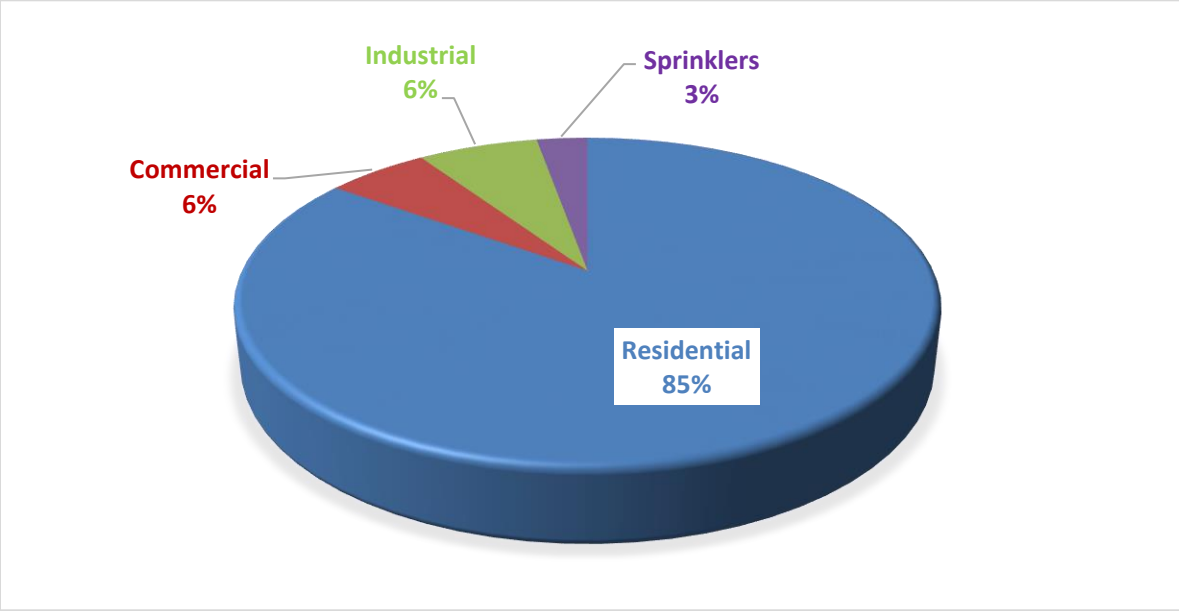
Eaton's billed water demand for treated water averaged 702 AF from 2012 through 2017. The largest water use is residential at approximately 596 AF or 85%. This is helpful to consider when selecting conservation measure to target certain categories. Residential water use, which includes both indoor and outdoor uses, constitutes the largest water use in Eaton.

Commercial and industrial uses represent approximately 12% of the water use in Eaton. Most of the commercial businesses in Eaton are located in the downtown area along Highway 85 and in the Maplewood Center. The commercial water uses include basic conveniences and some office buildings, retail stores, restaurants, and other similar businesses.

Industrial water users are generally located east of U.S. Highway 85. The Town also manages a bulk water station that services water users outside of Town, generally for oil and gas or construction projects. The bulk water station is metered by customer accounts and water is hauled off-site. The water is from Eaton's potable sources and is included in the industrial water use in this Plan.

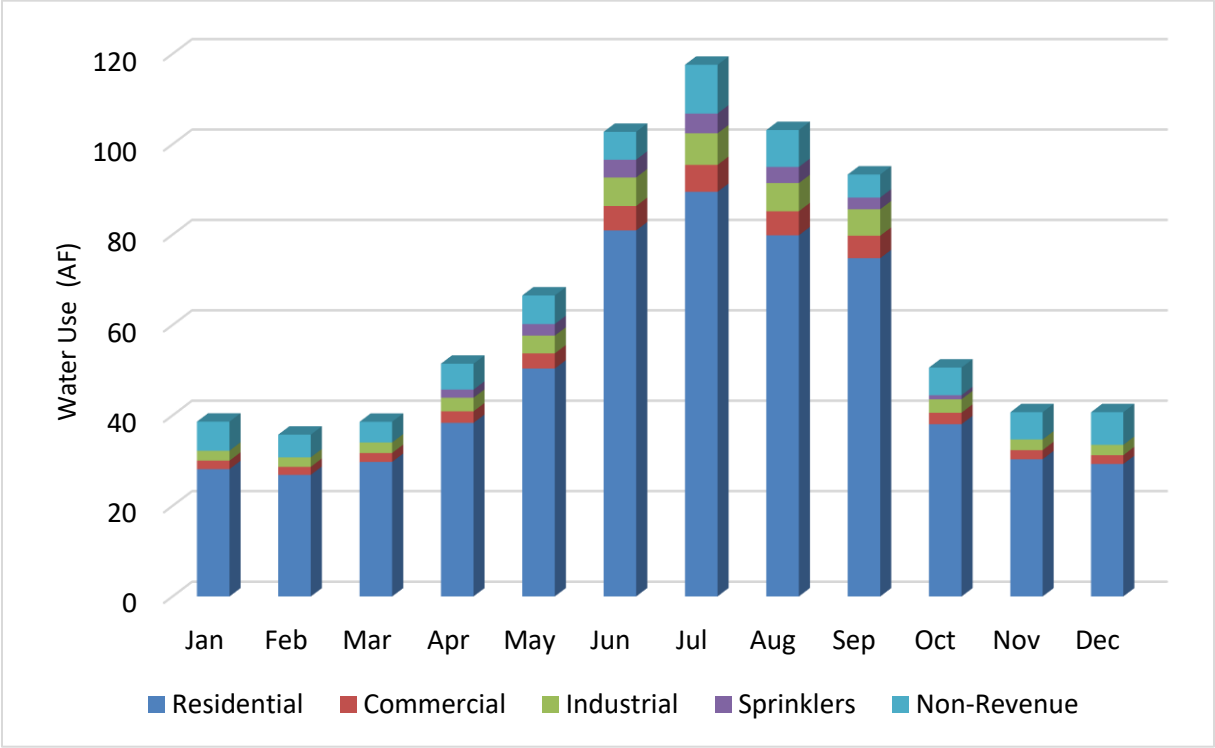
The sprinkler category is potable irrigation water used for green belt areas in residential and commercial developments. Water use for this category is estimated at 3% of the total billed water usage. **Figure 8** shows the average water use by customer category.

Figure 8: Average Water Use by Customer Category (2012 - 2017)



Water use in the summer months is significantly higher than in the winter months which is attributed to potable landscape irrigation on residential lots. **Figure 9** shows how the annual treated water by customer category was distributed monthly.

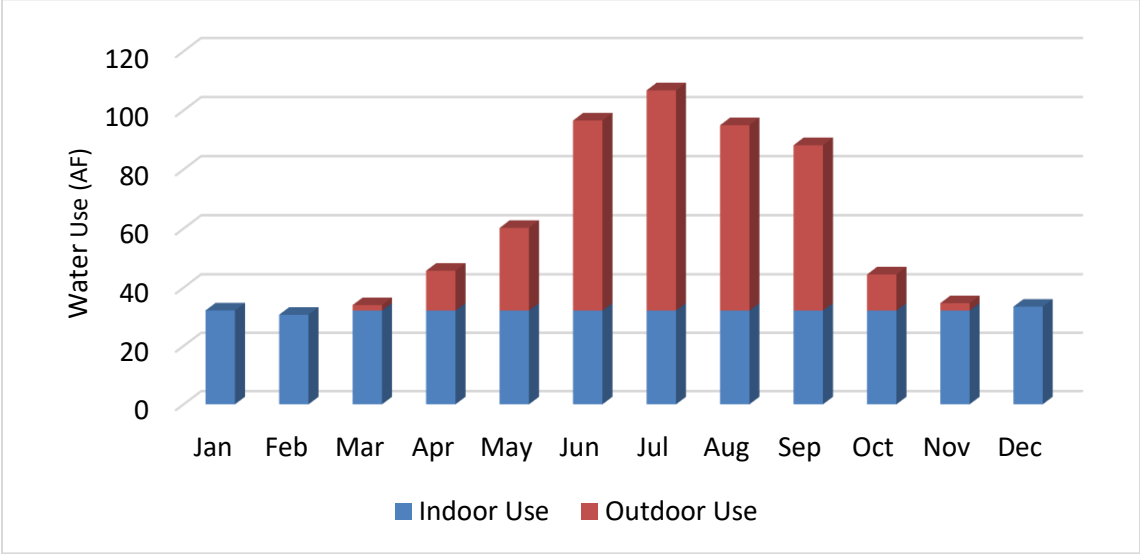
Figure 9: Average Monthly Treated Water Use by Customer Category (2012 - 2017)



Potable Indoor and Outdoor Demands

In Colorado, a significant portion of water use typically occurs outdoors for irrigation. To determine Eaton's average outdoor use, we examined the average water use during the winter months (December through February) and the average use during the summer months (March through November), for 2012 through 2017. Approximately 45% of the total water use is estimated as outdoor water use, as shown in **Figure 10**.

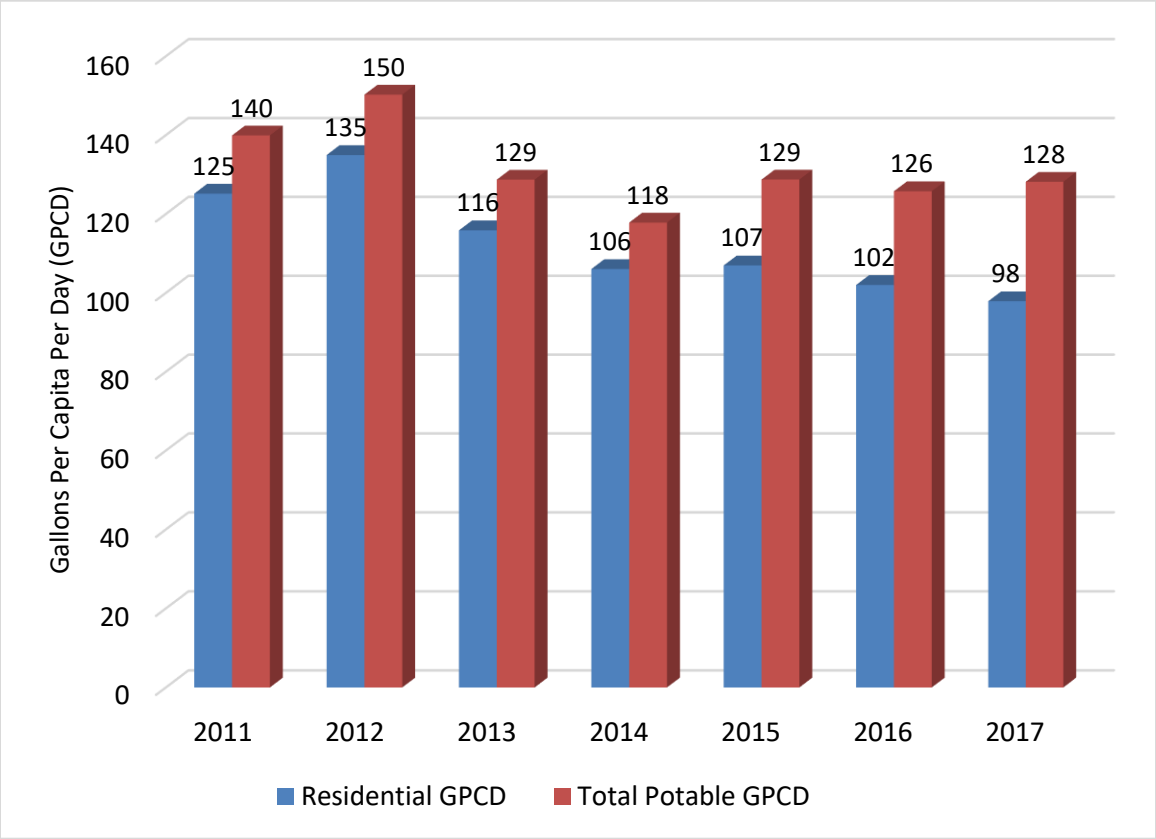
Figure 10: Average Indoor and Outdoor Treated Water Use (2012 - 2017)



Per Capita Water Use

Per capita water use, both system-wide and residential only, is a commonly used way to gage an entity's water use habits. System-wide per capita use can vary significantly between entities depending on the type of non-residential customers within the system. Eaton averages 131 gallons per capita per day (GPCD) system-wide with 113 GPCD for residential uses from 2011 through 2017 as shown in **Figure 11**. The residential per-capita water use includes potable irrigation use.

Figure 11: Historical Per Capita Treated Water Deliveries (2011 - 2017)



Annual Raw Distributed Non-Potable Water

Non-Potable Water Use

Non-potable irrigation water use in subdivisions with dual systems constitutes the second largest water use in Eaton at 28% of the total water use. This equates to 274 AF per year of water consumption on average from 2012 to 2017. This is due in part to the fact these taps are unmetered, allowing for unlimited water use at a flat rate. Eaton has started installing meters at some of the subdivisions, but they are not operational yet. Non-potable irrigation water used at the Town parks is not available and not included in the non-potable water use data.

As described in Eaton's *2018 Comprehensive Plan Update*, one of the Town's goals is to provide high-quality parks to residents. The Town has 11 parks totaling 56 acres;

Eaton Commons Park is currently the largest park in town encompassing 15.5 acres. Parks are a high priority for the residents and Town Staff alike.

Eaton's City Park

2.3 Past and Current Water Efficiency Activities and Impact to Demands

Current Water Efficiency Activities

The Town is in the process of implementing various water efficiency measures. Eaton's Municipal Code includes an ordinance making it unlawful to sprinkle lawns, gardens and trees except during times and hours permitted by the Town Board by resolution (Ord. 377 §19, 1984). Additionally, Eaton has an ordinance making it unlawful to permit waste of water through failure to make prompt repairs to faulty plumbing, through sprinkling or otherwise (Ord. 253 §14, 1961). The ordinance specifically states that sprinkling water running onto a street is legally sufficient evidence of water waste and is unlawful.

In addition to the regulatory controls listed above, Eaton has already incorporated the following water efficiency activities and programs:

- Comprehensive/Master Plans – The Town recently completed its *2018 Comprehensive Plan* and has a Water Master Plan from 2002.
- Regulatory Standards – The Town has a Waste Water Ordinance and Watering Restrictions.
- Slow the Flow Program – This program offers homeowners free consultations for in-ground sprinkler systems to improve water savings. Eaton received a grant to provide 20 consultations in 2018.
- Garden in A Box Program – This program provides garden kits with xeric (low water) starter plants to the residents and homeowners' associations. Eaton received a grant to provide 20 boxes in 2018; however, not all were used as it began late in the summer.

- Water Rate Study – Eaton completed a Water Rate Study in 2014. Eaton has not updated its water charges based on the rate study but is interested in completing a new study.
- Non-Potable Meters – Eaton began installing meters at Governor's Ranch and Aspen Meadows subdivisions. The fee structure is not set up to charge based on water use so the metering system is not operational yet. The Town intends to continue developing meters and a fee system for its non-potable wells.
- Website Upgrades – The Town added a webpage with water conservation information and links to ReCen and Colorado WaterWise websites.
- Billing Software Upgrades – Eaton periodically upgrades its billing software.
- Leak Detection and Repair - A leak detection company is hired every four years to analyze Eaton's system and pinpoint leaks. Leaks are repaired accordingly.
- Billing Statements that Encourage Water Savings – Currently, the Town's water bills include a 12-month accounting of the customer's water usage. Showing previous water usage can encourage efficient water use.

Numerous factors contribute to overall water usage so it's challenging to pinpoint the greatest contributors to changes in water usage. Drought and drought restrictions typically reduce water use considerably when restrictions are in place. Overall, Eaton has a general downward trend of per capita water usage. This trend will be discussed in more detail later in this section.

Land Use Activities and Efforts

Some of the Town's implemented activities integrate water and land use planning. These activities include:

- ***Comprehensive Plan.*** The Town's most recent *2018 Comprehensive Plan* includes goals and policies to encourage water conservation including the use of native and drought-tolerant plant species in landscape design.
- ***Restrictions and Ordinances.*** The Town established watering restrictions and a waste water ordinance over 30 years ago.
- ***Water Audits.*** Voluntary "Slow the Flow" irrigation audits were available for residents in 2018 and the Town intends to continue this program.
- ***Interactive Webpages and Website Updates.*** Eaton shares information through its water conservation webpage and strives to provide consistent online information to its customers.

Water Savings Estimates Using Demand Data

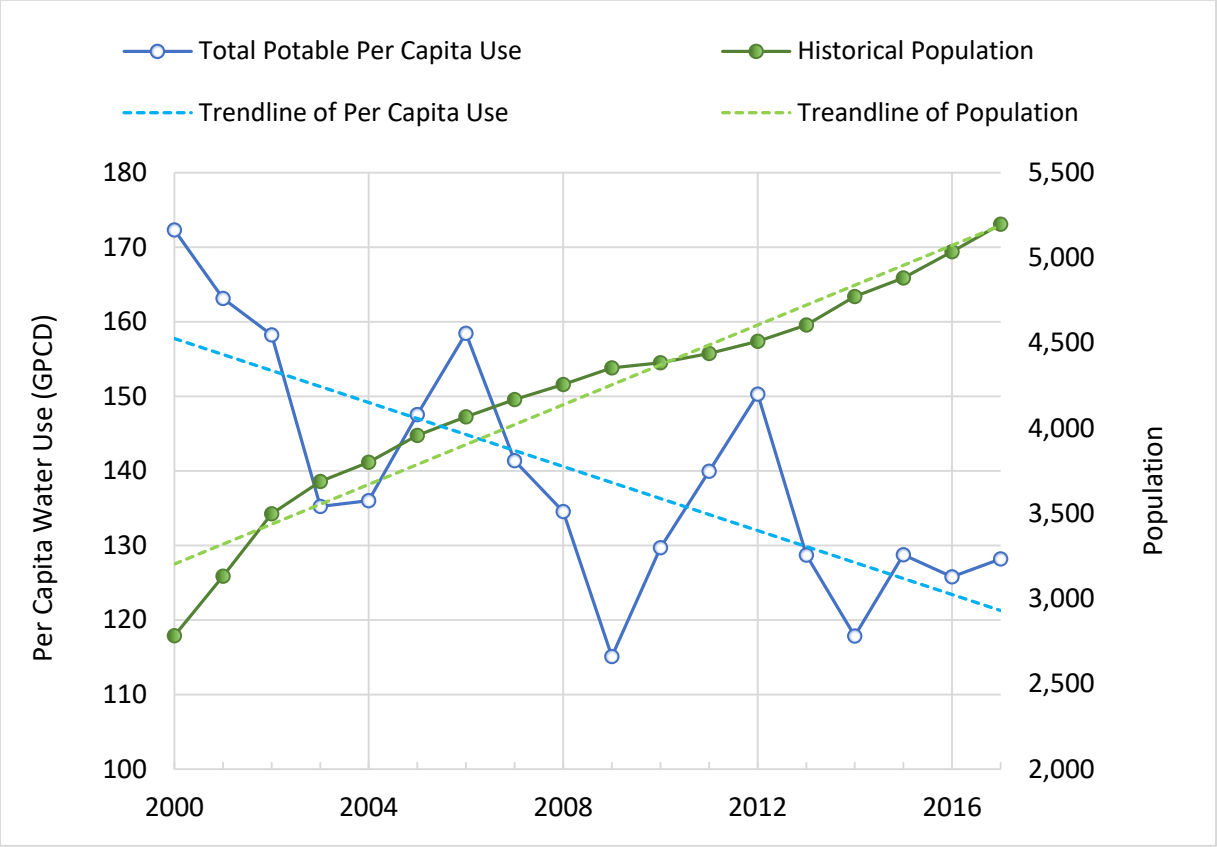
Water efficiency can occur from both passive savings and active programs. Passive savings are those correlated with changes made by customers without any utility incentive; examples of these could be replacing old inefficient fixtures with newer more efficient models. Active programs are programs that have been initiated by the utility which in this case is the Town.

Water savings from certain activities, such as those that are highly dependent on human behavior (e.g., public education programs) are much more difficult to quantify and, in many cases, cannot be estimated with reasonable accuracy. Additionally, data

was not collected for many of the water efficiency activities. For water efficiency activities without quantified savings, the per capita water use was used to estimate the savings.

The population of Eaton has had a steady increase and nearly doubled since 2000. Although the per capita water usage has varied year to year, the per capita usage for the Town has a clear downward trend over the last 18 years. Weather conditions also play a role in the per capita water use as in wetter years, customers typically use less water for outdoor irrigation than in dry years, which may explain the per capita spikes in 2006 and 2012 (dry years). **Figure 12** illustrates Eaton's overall water efficiency trend for its treated water supply.

Figure 12: Treated Water Use and Population Trends



Since the *2011 Water Conservation Plan*, the residential per capita usage decreased by 27 gallons per day per person (GPCD) from 2011 to 2017. Some of the variability in the per capita water usage is likely linked to the yearly fluctuations in temperature and precipitation. Based on the cost-benefit analysis, the Town has saved approximately 66 AF per year from its existing activities for all customer categories.

In addition, the Town reached its *2011 Water Conservation Plan* goal of reducing non-revenue water to 10%. The average non-revenue water from 2012 through 2017 averaged 10%; however, the losses ranged from 6% to 14% per year and fluctuated

monthly. There is still a goal to keep non-revenue water to 10% annually. The average non-revenue water from 2003 through 2010 averaged 12%.

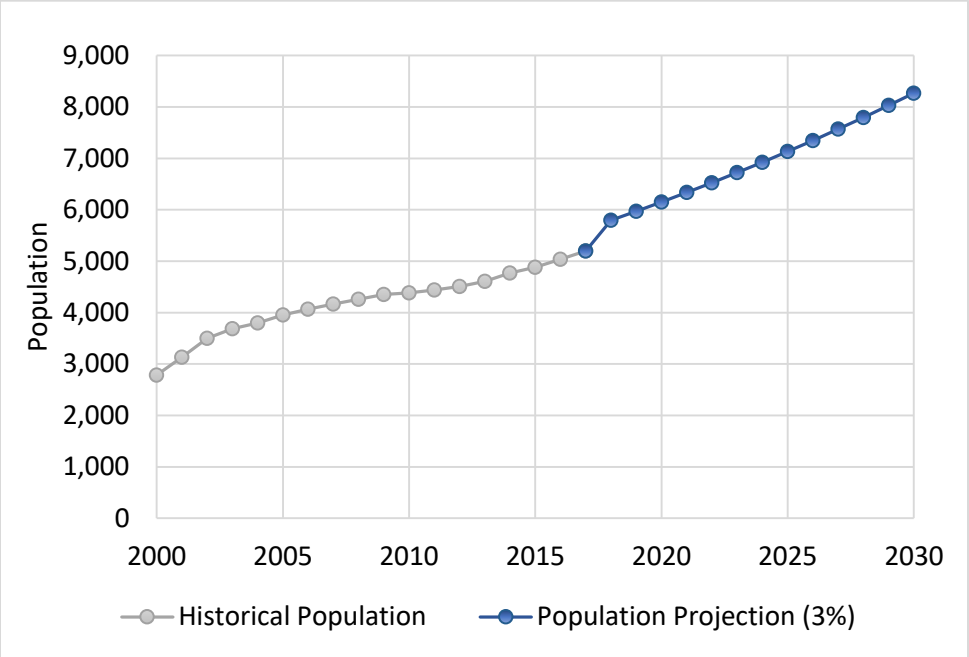
2.4 Demand Forecasts

This Plan includes an “unmodified” baseline demand forecast that does not include any impacts from future planned water efficiency activities selected in Section 4.0 of this Plan. Unmodified baseline demands assume a water provider will continue its existing water efficiency activities. This forecast shows demand starting in 2018 and going through the ten-year planning horizon (2027). In the unmodified baseline forecast, demands increase proportionally with the projected population at the current rate of usage. Population estimates shown in five year increments for the previous 25 years and projected population for the next ten years are presented in **Table 7** and illustrated in **Figure 13.**

Table 7: Observed and Projected Population Growth in Five-Year Increments

Year	Population	Average Yearly Growth Rate
2000	2,783	-
2005	3,957	8%
2010	4,384	2%
2015	4,882	2%
2020	6,153	5%
2025	7,133	3%
2030	8,269	3%

Figure 13: Historical and Projected Population Growth



Note: the 2018 population spike is based on the Town's population estimate and represents an adjustment to the Colorado Department of Local Affairs historical data.

Forecasting future growth and resulting water demands for the Town is critical in understanding the reliability of the water supply to meet the future demand. The demand forecast in this Plan uses a ten-year planning horizon and assumes a Plan Update will occur in seven years or 2024, which is recommended in the *Guidance Document*.

Based on the Water Service Agreement between Eaton and NWCWD, the Town provides the raw water in the amount of 110% of the total measured potable water usage at the master meter for the previous year, plus any anticipated increases in use. The 10% is used to cover losses that occur as the water is being delivered from the WTP to the master meter. The projected demands for Eaton are shown in **Table 8**. The total water demand from NWCWD is projected to increase to 1,221 AF by 2027 with a treated water demand by customers of 977 AF per year.

Table 8: Demand Projections (Values in AF)

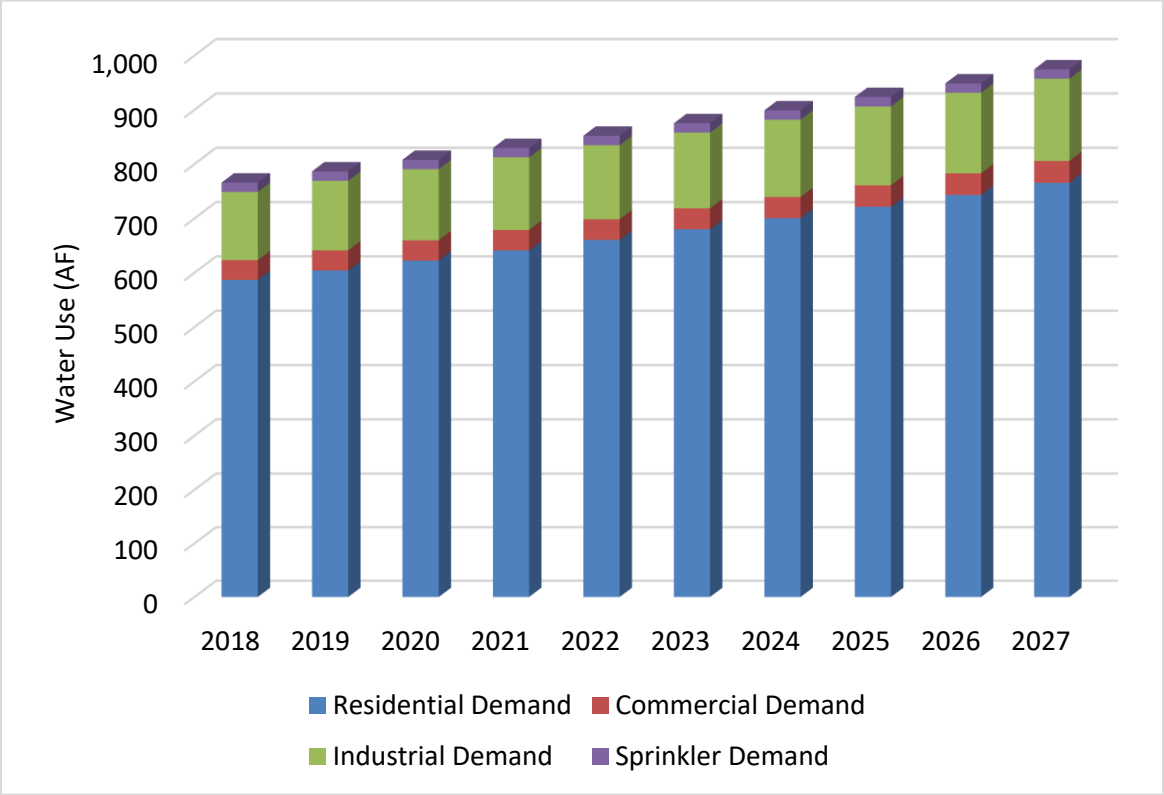
Year	Water Demand from NWCWD	Estimated Surcharge	Non-Revenue Water	Treated Water Demand
2018	958	96	96	766
2019	984	98	98	787
2020	1,011	101	101	809
2021	1,038	104	104	831
2022	1,067	107	107	853
2023	1,096	110	110	877
2024	1,126	113	113	901
2025	1,157	116	116	925
2026	1,188	119	119	951
2027	1,221	122	122	977

The total projected treated water demand was divided among each customer category and is presented in **Figure 14**. Residential demand was assumed to increase at 3.0% based on estimates of population growth by the Town Staff and is also consistent with historical growth rates in the Town from 2012 through 2018. The commercial and industrial water uses were assumed to increase at the average rate of growth experienced from 2012 through 2017 or 1.1% and 2.1% respectively. The number of sprinkler taps stayed the same from 2012 through 2017; however, it was assumed the water use would increase the same as commercial at 1.1% annually as the sprinkler taps are used for irrigation around businesses and parks. In total, the overall treated water demand is estimated to increase at approximately 3% per year. Residential demand is projected to continue to be the largest treated water demand in the Town.

As described in the *2018 Comprehensive Plan*, housing developments are anticipated to expand to the north of the existing Town boundary. The *2018 Comprehensive Plan* recommends a variety of housing types and price brackets for residents. Eaton may expand commercial development to accommodate this growth; commercial developments are proposed along U.S. Highway 85 in the vicinity of County Road 76.

There are currently 210 acres of undeveloped industrial lands that the *2018 Comprehensive Plan* identifies as areas to develop. New commercial businesses and industries in the Town will provide residents the opportunity to shop and work close to home. In 2015, Eaton began operating a bulk water station that caters to industrial water users needing to truck water for projects.

Figure 14: Demand Projections for Customer Categories



SECTION 3.0 – INTEGRATED PLANNING AND WATER EFFICIENCY BENEFITS AND GOALS

3.1 Water Efficiency and Water Supply Planning

Forecasted Modified Water Demands

A "modified" demand forecast was developed to estimate the total demands for Eaton at the end of the planning horizon that includes the impacts of both the Town's existing water efficiency activities and proposed activities in Section 4.0. Under the modified forecast, it is estimated that total annual demand in 2027, at the end of the ten-year planning horizon, is 849 AF which includes the unaccounted for losses. This equates to an annual treated water demand savings of 128 AF in comparison to the unmodified baseline forecast. The total water savings during the ten-year planning period is estimated to be up to 1,301 AF if all the selected water efficiency activities are implemented. The Town will use this information in its future water supply planning and development planning.

The Town plans to accomplish this level of water savings by continuing programs already implemented (*i.e., Automatic Water Meter Reading Installation and Operations, Leak Detection and Repair Program, Watering Restrictions, etc.*) and implementing new programs (i.e., *System Wide Water Audits,* new ordinances and regulations*,* customer incentives like giveaways, and various educational programs and materials, etc.). The projected water savings is expected to be seen by a steady reduction of per capita use over time. Generally, the more exposure customers have to water efficiency activities, the more effective these programs are over time. Overall raw water demand, however, will naturally continue to increase due to the anticipated continued population growth of the Town.

As discussed previously, there are two types of water savings, passive and active. Passive savings refer to water savings from replacing old fixtures and appliances with new high-efficient ones. This type of water savings occurs naturally over time as residents and commercial businesses replace and upgrade old items. Some of the Town's existing and proposed water efficiency activities can help encourage these replacements earlier by offering giveaways, water efficient rate structures, and educational materials on water use. This helps the Town see passive water savings sooner in its treated water demand. Active water savings specifically occur from implementation of the Town's water efficiency activities. This type of water savings wouldn't occur without the Town's participation in water efficiency activities.

The modified demand forecast for Eaton's treated water is illustrated in **Figure 15** and summarized in **Table 9**. The modified demand forecast depicts the

estimated passive savings and the total savings (passive and active savings) for the Town.

Figure 15: Demand Projections with Modified Demands

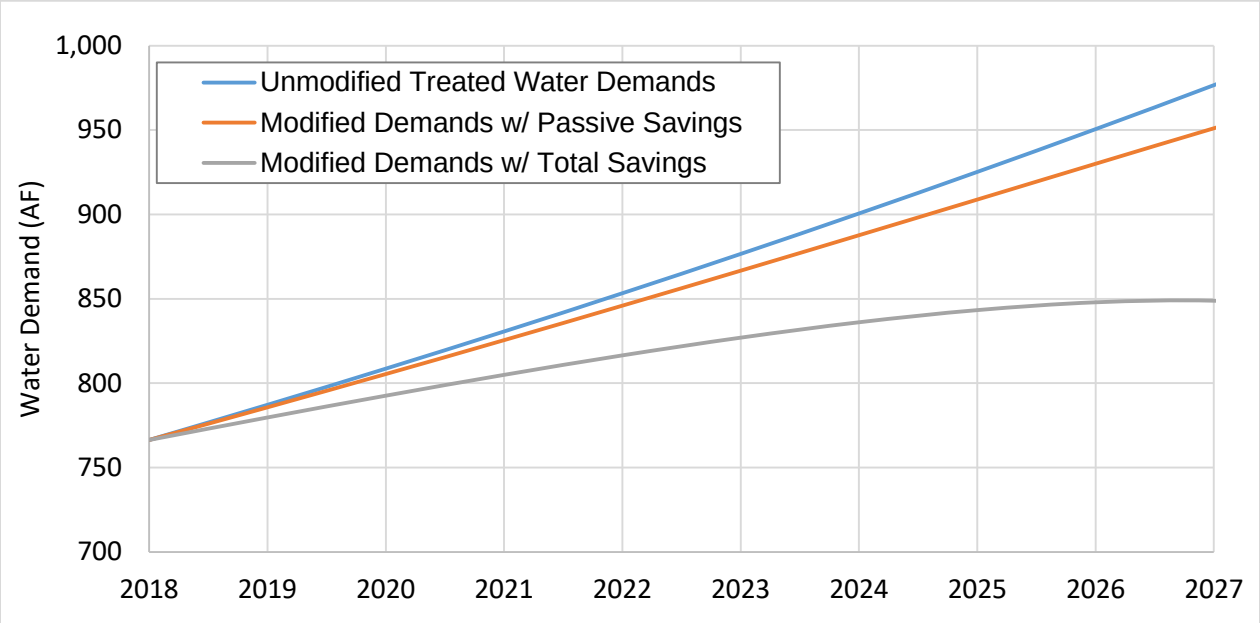


Table 9: Demand Projections - Unmodified and Modified (Values in AF)

Year	Unmodified Treated Water Demand	Modified Treated Water Demand with Passive Savings	Modified Treated Water Demand with Total Savings
2018	766	766	766
2019	787	786	780
2020	809	805	793
2021	831	825	805
2022	853	846	816
2023	877	867	827
2024	901	888	836
2025	925	909	843
2026	951	930	848
2027	977	951	849

Impacts to Future Water Facilities and Supply Acquisitions

Eaton highly values efficiency planning and is actively seeking out partnerships on the implementation of new activities. The benefits of this water efficiency planning effort may include:

- Making existing water supplies available for future growth and development
- Using water saved to cover shortages in droughts or other emergency situations
- Delaying the purchase of additional water supplies and potentially costly Water Court processes
- Delaying the costs of constructing new facilities such as a WTP or an upgraded WWTP

Community Center Landscaping with Low Water Use Plants

3.2 Water Efficiency Goals

Water efficiency goals are intended to provide a set of targeted objectives that will result in the identified benefits if accomplished. A preliminary set of goals has been developed prior to the selection of the water efficiency activities to provide a means to screen and evaluate the selected activities.

A meeting was initially held with Town Staff to discuss water efficiency goals appropriate for Eaton. The Town Staff expressed interest in many of the activities related to residential water use as this is the largest treated water use in the Town. Eaton also expressed interest for partnership opportunities with other organizations as the Town is already pursuing these types of activities. The following preliminary goals were established by Staff:

- The targeted water savings goal for this Plan will be to lower the total per capita water use by 10% over the ten-year planning period.

- The targeted ten-year water reduction goals for the following customer categories were as follows:
    - Residential: 12%
    - Commercial: 5%
    - Industrial (does not include bulk water station): 3%
    - Sprinkler: 3%
    - Non-Revenue Water: 1%
- To develop a water efficiency program that can be implemented within Town staffing constraints and with Town Staff and Board approval.
- To implement water efficiency activities that are compatible with the community.
- To prioritize activities that include partnerships as the Town is actively seeking project partnerships with Northern Water.
- To develop a cost-effective program that achieves water savings goals while staying within budget constraints.

The success of the stated goals will be measured through monitoring of billing data, screening and evaluating activities that are acceptable to Town Staff, and soliciting Town Board and community feedback on water efficiency activities.

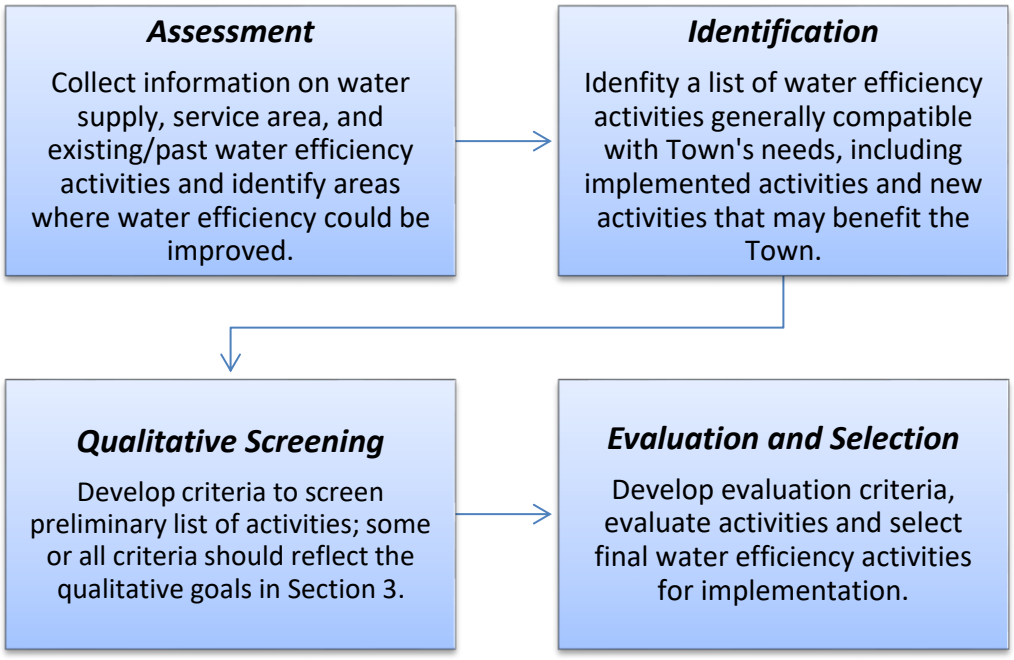
SECTION 4.0 – SELECTION OF WATER EFFICIENCY ACTIVITIES

4.1 Summary of Selection Process

General Overview of Selection Process

Eaton used a four-phase process to select and fully evaluate water efficiency activities for implementation in this Plan, shown in **Figure 16**. This process is recommended in the *Guidance Document*.

Figure 16: Four-Phase Process for Selecting Water Efficiency Activities



Assessment, Identification, and Qualitative Screening

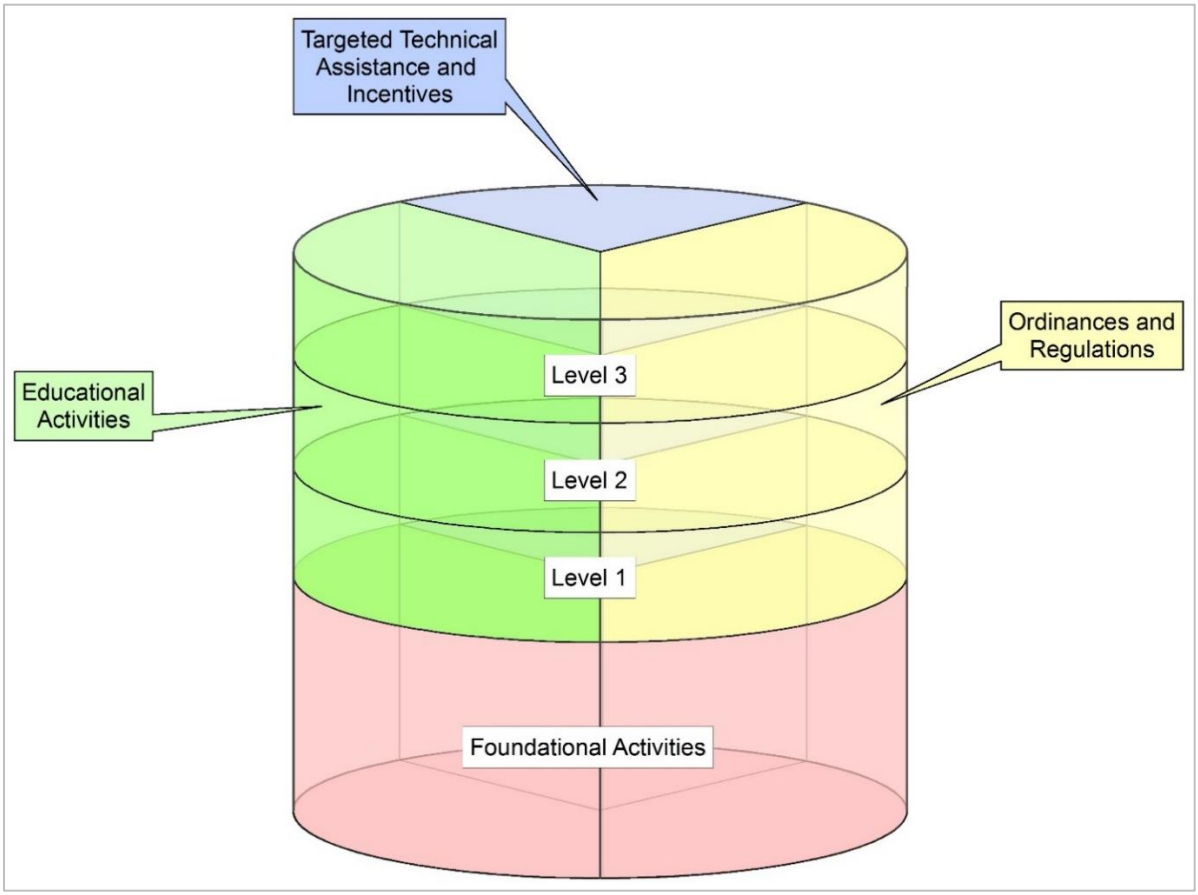
In Phase 1 (Assessment), the Town profiled its existing water supplies and identified its current water savings from implemented water efficiency activities in Sections 1.1 and 2.3 of this report, respectively. The Town also identified areas where water savings could be improved through the Town's participation in additional measures.

For Phase 2 (Identification), *Worksheets D – G* (**Appendix B**) from the *Guidance Document* were used to identify a list of activities generally compatible with the Town's needs and goals. The list of activities evaluated are organized according to the SWSI Levels Framework. The SWSI Levels Framework was developed as a component of the SWSI 2010 update to organize water efficiency activities into a model that assists municipalities in prioritizing and selecting activities. SWSI Levels Framework includes the following levels of water efficiency activities:

- **Foundational Activities** – These activities focus on system operations and water efficiencies that are under Eaton's direct control and can improve the effectiveness of the planning efforts by ensuring sufficient metering and data tracking.
- **Targeted Technical Assistance and Incentives** – These measures cover activities that Eaton and its Water Service Area customers can do to improve existing water efficiency.
- **Ordinances and Regulations** – These measures include regulatory activities designed to encourage water efficiency.
- **Education Activities** – These efforts educate the public on the benefits of water efficiency, inform customers on how they can reduce their water usage, and publicize water efficiency activities that Eaton is implementing.

Figure 17 depicts the framework provided in SWSI 2010 to help municipalities organize and prioritize water efficiency activities by "activity type" and then by "level" within each type.

Figure 17: SWSI Levels Framework



As part of Phase 3 (Qualitative Screening), the Town Staff developed qualitative screening criteria to evaluate the preliminary list of activities. The screening criteria include: 1) Financially feasibility/implications; 2) Staff availability; 3) Staff and Board Approval; 4) Existing or planned Town projects; 5) Partnership possibility. Activities not

meeting the screening criteria were eliminated. The specific reason for elimination of activities can be found in *Worksheets D – G*, located in **Appendix B**.

Evaluation and Selection

During Phase 4 (Evaluation and Selection), the Town developed evaluation criteria, evaluated the activities, and selected the final activities for implementation. Some of the general evaluation criteria included:

- Applicability to the Town of Eaton
- Moderate to high potential reduction of water use and financially feasible
- Town Board, Town Staff and community support and acceptance
- Partnerships with other organizations to reduce Town Staff time and costs to implement

4.2 Water Efficiency Activities

The initial screening of the water efficiency activities with Town Staff resulted in selecting 29 candidate activities for further evaluation. The Town ultimately eliminated two activities after the initial evaluation. The 27 activities selected for implementation were then combined into a total of 23 activities for simplicity. The analysis of costs and benefits of the selected measures and programs are shown in **Table C-1** in **Appendix C**. Details about the cost/benefit evaluation and information about each measure can be found in the following section with further detail available in **Appendix D.**

4.3 Selection of Activities for Implementation

The second screening of water efficiency activities was completed by evaluating each activity using the criteria discussed in Section 4.1. Details about the final activities chosen can be found in the following descriptions.

Foundational Activities

- **System Wide Water Audits**
  By implementing System Wide Water Audits, the Town could identify unmetered and unbilled treated water uses in order to assess where losses are occurring and how losses can be addressed. These losses are considered Non-Revenue water.
- **Automatic Meter Reading Installation and Operations**
  Eaton currently has automatic meter reading (AMR) meters for its customers. The benefits of AMR meters include improved billing accuracy and a reduction in the time and expense to read and bill meters.
- **Advanced Meter Reading Installation and Operations**
  Advanced Metering Infrastructure (AMI) is a metering system that records customer consumption and provides frequent transmittal of measurements over a communication network to a central collection point. AMI systems have the

capability to offer customers an interactive portal where they would get usage alerts and be able to view billing and metering data.

- **Water Rate Study – Water Efficient Rate Structures with Regular Updates**
  Based on many studies, water rates (e.g., inclining and/or tiered rates) are one of the most effective ways to encourage efficient water use. A rate study is necessary to ensure maximum water savings. Because they are very interrelated, this measure also includes Volumetric Billing and Tiered Rates within it. The Town completed a rate study in 2014 and intends to update the study during the planning horizon. The Town's current per-1000 gallon water rate increases with customer usage over 4,000 gallons per month.
- **Leak Detection and Repair Program**
  Eaton completes a leak detection program every four years and intends to continue this program as a water efficiency activity. Leak detection and repair targets non-revenue water and helps the Town reduce water lost in the system to increase its overall efficiency. This program can reduce the raw water demand or provide saved water to customers. Leak detection and repair also reduces the liability of system damage due to leaks.
- **Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans**
  These types of plans are comprehensive studies used to guide the Town in future decision-making on planning and growth. The Town recently completed a *2018 Comprehensive Plan* and completed a *Water Master Plan* in 2002. Other plans the Town may develop include a Capital Improvement Plan and an updated Treated Water Master Plan. These plans help to integrated future land development and water planning.
- **Drought Management Plan**
  Drought conditions can significantly reduce a municipality's firm water supplies. Drought Management Plans focus on how to mitigate and respond to short-term water supply shortages in dry years. Typically, these plans focus on temporary water savings, such as mandatory water restrictions and other measures to reduce customer demand quickly. Drought Management Plans complement Water Efficiency Plans, which aim to conserve water by implementing long-term activities to reduce the per-capita water use.
- **Non-Potable Account Meters at Subdivisions**
  In Eaton, several Subdivisions have dual systems and use non-potable water for irrigation from the Town's wells. The Town does not currently monitor non-potable water usage by customer account. Adding meters to these customer accounts will allow the Town to understand the non-potable water usage at the acreage lots and parks. The Town may also bill customers for non-potable water usage by establishing water rates which encourage customers to use less water.
- **General Monitoring and Verification Activities and General Water Rates and Billing**
  Eaton participates in general water monitoring and verification activities including, but not limited to: customer meter installation, frequent meter reading, volumetric-based billing with increasing/tiered rates that encourage customers to conserve, customer type tracking, etc.

Targeted Technical Assistance and Incentives

- **Slow the Flow Commercial Irrigation Audits**
  ReCen offers “Slow the Flow” Commercial Irrigation Audits for communities like Eaton. "Our Slow the Flow services help Colorado businesses, homeowners’ associations (HOAs), and municipalities increase their water use efficiency, adhere to best management practices, and reach conservation goals. Slow the Flow provides simple and economical recommendations for HOAs and businesses to increase their water use efficiency at no cost." –ReCen.
- **Slow the Flow Park Irrigation Audits**
  The Town may partner with ReCen and/or Northern Water to complete irrigation audits of parks and/or open space areas in Eaton. Technicians would provide recommendations to improve efficiency. This may include replacing some turf areas (high water use) with xeric plants (low water use). This is targeted at non-potable water use.
- **Slow the Flow Residential Irrigation Audits**
  ReCen offers “Slow the Flow” Residential Irrigation Audits for communities like Eaton. "The service usually takes 90 minutes and involves a visual inspection, data collection, and in-depth evaluation. Our technicians will deliver a clear and actionable list of suggestions to reduce water use and runoff at each property, while keeping landscapes and lawns healthy." –ReCen. This program also helps educate the Town’s participants on how to water more effectively and efficiently. Eaton participated in this program in 2018.
- **Giveaways: Water Audit Kits**
  The Town can customize Water Audit Kits with many useful, education, and yet fun water saving components. Some of the items include water-saving hose nozzles, water-efficient showerheads, faucet aerators, and outdoor moisture meters to name a few. These kits can be customized with Eaton’s logo and provided to citizens at Town events. The kits include instructions with insight and direction on how to save water and money in their homes and businesses.
- **Xeriscape Incentives – Garden in a Box**
  ReCen offers an array of do-it-yourself Xeric garden kits, created by professional landscape designers for sun, shade, and everything in between. These plant-by-number gardens can have a significant conservation impact and are perfect for anyone who wants to beautify their yard while using less water than standard turf. The Town can fully or partially sponsor these garden kits for a certain number of participants per year. Eaton participated in this program in 2018.
- **Outdoor Irrigation Controllers and Rain Sensors – Giveaways or Rebates**
  Outdoor Irrigation Controllers, Rain Sensors and possibly Winds Sensors could be made available to Eaton’s water users for free or for a reduced cost. This could also be adapted to serve as a rebate program; however, the Town prefers to provide giveaways. Outdoor Irrigation Controllers allow a user to program automatic irrigation schedules. Rain sensors are used to automatically shut off sprinklers during rain. It was assumed Eaton would offer 19 sensors and 1 controller per year to customers.

Ordinances and Regulations

- **Weekly and Time of Day Outdoor Watering Restrictions**
  Eaton may implement mandatory and/or voluntary restrictions. The Town's Municipal Code makes it unlawful to sprinkle lawns, gardens and trees except during those times and hours permitted by the Town Board by resolution.
- **Water Waste Ordinance**
  Eaton does not currently have a waste water ordinance. Examples of regulations in a waste water ordinance include: limiting at-home car washing, requiring customers to maintain water lines and repair leaks, or limiting excess water from irrigation.
  Landscape Design Ordinances and Restrictions
  The Town may develop landscape design ordinances and restrictions. Examples may include: Rules and Regulations for Landscape Design/Installation, Soil Amendment Requirements, Turf Restrictions, and Irrigation Equipment Requirements. This water efficiency activity is a priority for the Town over the next one to three years. The Town's *2018 Comprehensive Plan* sets goals and proposed policies to promote water conservation through water efficient landscape design.
- **Town Facility Requirements**
  Eaton is evaluating updating its existing Town facility fixtures with high-efficiency fixtures to save water. This could include replacing toilets and faucets at the Town Hall, Police Station, Public Works office and Sewer Plant. The Town will promote efficient fixtures in its municipal buildings and lead by example for its community members.

Educational Activities

- **Public Education Activities**
  The Town Staff are interested in providing educational materials on water efficiency to its citizens through one or a combination of: bill stuffers, newspaper articles, interactive webpages, educational campaigns and social networking. The Town currently has a water conservation webpage with resources to help citizens conserve water at home. The Town will continue to strive for consistent online information throughout its Public Education Activities.
- **Children's Water Fair or Festival**
  Eaton could participate in water fairs or festivals to provide educational materials to students about water conservation. The Town may be able to partner with other organizations and groups, such as Northern Water, to reduce the staff time needed to prepare materials and network with students.
- **Post or Distribute ET Irrigation Scheduling**
  ET (evapotranspiration) is a combination of water transpired from plants and evaporated from the soil and plant surfaces. An ET irrigation schedule uses historical climate data to calculate average turf grass water use throughout the spring, summer and fall. This helps customers understand seasonal water needs and be able to program their water systems to avoid over-watering lawns. The schedule can be printed on water bills or posted on the Town's website. The

Northern Colorado Water Conservancy District website provides turf water use guides by location. The Town currently posts an ET irrigation schedule.

- **Xeriscape Demonstration Garden**
  Maintaining a xeriscape demonstration garden is an excellent way to educate the public to the water savings and beauty available from xeriscaping. The Town could partner with other organizations to design and maintain a xeriscape demonstration garden. Two potential location include the Eaton Commons Trail and an existing detention pond in the Town. The Town could plant decorative native grasses and other low water use plants and install placards with information for residents. Eaton is working with Northern Water currently on these gardens.

Comparison of Costs and Benefits

As shown in **Table C-1** in **Appendix C**, the cost for the evaluated treated water efficiency activities ranged from $2.08 per 1,000 gallons saved for the Leak Detection and Repair Program to $53.47 per 1,000 gallons saved for the Giveaways: Water Audit Kits. Both the Non-Potable Park Well Meters at Subdivisions and the Slow the Flow Park Irrigation Audit are the lowest cost of all the activities at less than $1.00 for 1,000 gallons of water saved. The 23 selected water efficiency activities and the associated water savings were arranged within the targeted customer categories to more easily compare the anticipated savings to the original goals. Some of the measures contribute savings to more than one category. **Table 10** shows the water savings for the selected activities, sub-totaled for each customer category.

Garden in a Box example. Photo credit: Resource Central.

Table 10: Combined Water Savings of Selected Water Efficiency Activities

Water Efficiency Activities **yellow rows are existing activities*	Estimated Annual Water Savings (MG/yr)[A]	Estimated Total Ten-Year Water Savings (MG)[A]
Non-Revenue Water		
System Wide Water Audits	0.18	1.8
Automatic Meter Reading Installation and Operations	0.18	1.8
Advanced Metering Infrastructure Installation and Operations	0.35	3.5
Leak Detection and Repair Program	1.77	17.7
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.18	1.8
Drought Management Plan	0.35	3.5
General Monitoring and Verification Activities and General Water Rates and Billing	0.09	0.9
Subtotal - MG	**3.1**	**30.9**
Acre-Feet	***9.5***	***95***
Residential		
Automatic Meter Reading Installation and Operations	1.10	11.0
Advanced Metering Infrastructure Installation and Operations	13.15	131.5
Water Rate Study - Water Efficient Rate Structure with Regular Updates	10.96	109.6
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	1.10	11.0
Drought Management Plan	2.19	21.9
General Monitoring and Verification Activities and General Water Rates and Billing	0.55	5.5
Slow the Flow Residential Irrigation Audits	0.04	2.2
Giveaways: Water Audit Kits	0.01	0.7
Xeriscape Incentives - Garden in a Box	0.00	0.1
Outdoor Irrigation Controllers and Rain Sensors - Giveaways or Rebates	0.04	2.1
Weekly and Time of Day Outdoor Watering Restrictions	0.19	1.9
Water Waste Ordinance	0.10	1.0
Landscape Design Ordinances and Restrictions	0.69	6.9
Educational Activities (Bill Stuffers, Social Networking, Web Pages, Campaigns, etc.)	4.38	43.8
Children's Water Fair or Festival	0.02	1.3
Post or Distribute ET Irrigation Scheduling	1.91	19.1
Xeriscape Demonstration Garden	0.01	0.3
Subtotal - MG	**36.4**	**370.0**
Acre-Feet	***111.8***	***1,135***

[A] *Blue text in AF instead of MG.*

Water Efficiency Activities **yellow rows are existing activities*	Estimated Annual Water Savings (MG/yr)[A]	Estimated Total Ten-Year Water Savings (MG)[A]
Commercial		
Automatic Meter Reading Installation and Operations	0.06	0.6
Advanced Metering Infrastructure Installation and Operations	0.37	3.7
Water Rate Study - Water Efficient Rate Structure with Regular Updates	0.25	2.5
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.06	0.6
Drought Management Plan	0.12	1.2
General Monitoring and Verification Activities and General Water Rates and Billing	0.03	0.3
Slow the Flow Commercial Irrigation Audits	0.04	2.3
Giveaways: Water Audit Kits	0.00	0.0
Weekly and Time of Day Outdoor Watering Restrictions	0.01	0.1
Water Waste Ordinance	0.01	0.1
Landscape Design Ordinances and Restrictions	0.04	0.4
Town Facility Requirements	0.03	0.3
Educational Activities (Bill Stuffers, Social Networking, Web Pages, Campaigns, etc.)	0.09	0.9
Post or Distribute ET Irrigation Scheduling	0.11	1.1
Xeriscape Demonstration Garden	0.00	0.0
Subtotal - MG	**1.2**	**14.2**
Acre-Feet	***3.8***	***44***
Industrial		
Automatic Meter Reading Installation and Operations	0.01	0.1
Advanced Metering Infrastructure Installation and Operations	0.06	0.6
Water Rate Study - Water Efficient Rate Structure with Regular Updates	0.04	0.4
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.01	0.1
Drought Management Plan	0.02	0.2
General Monitoring and Verification Activities and General Water Rates and Billing	0.00	0.0
Weekly and Time of Day Outdoor Watering Restrictions	0.00	0.0
Water Waste Ordinance	0.00	0.0
Landscape Design Ordinances and Restrictions	0.01	0.1
Educational Activities (Bill Stuffers, Social Networking, Web Pages, Campaigns, etc.)	0.01	0.1
Post or Distribute ET Irrigation Scheduling	0.02	0.2
Subtotal - MG	**0.2**	**1.8**
Acre-Feet	***0.5***	***5***

[A] *Blue text in AF instead of MG.*

Water Efficiency Activities **yellow rows are existing activities*	Estimated Annual Water Savings (MG/yr)[A]	Estimated Total Ten-Year Water Savings (MG)[A]
Sprinkler		
Automatic Meter Reading Installation and Operations	0.03	0.3
Advanced Metering Infrastructure Installation and Operations	0.18	1.8
Water Rate Study - Water Efficient Rate Structure with Regular Updates	0.12	1.2
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.03	0.3
Drought Management Plan	0.06	0.6
General Monitoring and Verification Activities and General Water Rates and Billing	0.01	0.1
Outdoor Irrigation Controllers and Rain Sensors - Giveaways or Rebates	0.00	0.3
Weekly and Time of Day Outdoor Watering Restrictions	0.01	0.1
Water Waste Ordinance	0.01	0.1
Landscape Design Ordinances and Restrictions	0.04	0.4
Educational Activities (Bill Stuffers, Social Networking, Web Pages, Campaigns, etc.)	0.04	0.4
Post or Distribute ET Irrigation Scheduling	0.12	1.2
Subtotal - MG	**0.7**	**6.9**
Acre-Feet	***2.0***	***21***
Non-Potable Irrigation		
Non-Potable Account Meters at Subdivisions	3.56	35.6
Slow the Flow Park Irrigation Audits	1.38	13.8
Xeriscape Demonstration Garden	0.37	3.7
Subtotal - MG	**5.3**	**53.2**
Acre-Feet	***16.3***	***163***
Grand Total (Treated and Non-Potable Water) - (MG)	**47**	**477**
Acre-Feet	***144***	***1,464***
Treated Water Grand Total - (MG)	**42**	**424**
Acre-Feet	***128***	***1,301***
Treated Water Grand Total Savings from Existing Measures (Acre-Feet)	***66***	***665***

[A] *Blue text in AF instead of MG.*

The selected activities provide an overall estimated water savings of 1,301 AF per year over the ten-year planning horizon if all activities were implemented for the full ten years. The water savings per customer category in **Table 10** was compared to the original water savings goals identified in Section 3.0. The final water savings per customer category was fairly close the preliminary goals, or a total of 15%. The adjusted goals reflect the goals achievable by the Town Staff. **Table 11** compares the anticipated water savings from the selected activities with the original goals and then

adjusts the water saving goals for this Plan. Overall, Eaton is anticipated to reduce water use by 15% if the selected water efficiency activities in this Plan are implemented.

Table 11: Water Efficiency Goals Comparison

Water Use Categories:	Total Projected Water Use (2018 to 2027)	Reduction Goals for Planning Horizon		Adjusted Reduction Goals for Planning Horizon	
				Total Water Savings from Activities	Resulting Reduction
	(AF)	(%)	(AF)	(AF)	(%)
Residential	6,727	12%	807	1,135	17%
Commercial	383	5%	19	44	11%
Industrial	58	3%	2	5	9%
Sprinkler	184	3%	6	21	11%
Non-Revenue Water	1,084	1%	11	95	12%
Total:	8,437		845	1,301	

SECTION 5.0 – IMPLEMENTATION AND MONITORING PLAN

5.1 Implementation Plan

The implementation plan defines the process necessary to carry out the selected water efficiency activities. The Town Administrator and Assistant Town Administrator will be chiefly responsible for coordinating and delegating tasks to Town Staff. Other departments, such as Public Works, will have roles in implementing some of the selected activities in this Plan. Eaton's proposed implementation plan is presented in *Worksheet J*, **Appendix B**. Eaton plans to budget for water efficiency activities presented in this Plan and intends to pursue CWCB water efficiency implementation grants to fund activities to meet its goals.

5.2 Monitoring Plan

A monitoring plan outlines the Town's process to monitor the progression of the implementation plan. The Town is encouraged to make adaptive changes to the implementation plan and water efficiency activities as necessary. This allows the Plan to evolve over time with the Town's water resource planning efforts. MWEPs are the most successful when a water provider monitors and adjusts the implementation plan accordingly. The Town's monitoring plan includes the following recommended components: data collection, evaluation and communication processes, and documentation.

Monitoring water demand data is beneficial in tracking the savings generated from the implementation plan. Eaton tracks total treated water and the treated water use per customer category on a monthly and annual basis. Raw water from the NPIC is summarized annually. The water demand data to be collected during the monitoring period of this Plan is presented in *Worksheet K* in **Appendix B**. An abbreviated table of *Worksheet K* is presented in **Table 12.**

Table 12: Selection of Demand Data for Efficiency Plan Monitoring

Monitoring Data	HB 10-1051 Reporting Requirement				Selection			
	Annual	Monthly	Bi-Monthly	Daily	Annual	Monthly	Bi-Monthly	Daily
Total Water Use								
Total treated water produced (metered at WTP discharge)					X	X		
Total treated water delivered (sum of customer meters)	√				X	X		
Per capita water use					X			
Non-revenue water	√				X			
Water Use by Customer Type								
Treated water delivered		√			X	X		
Residential per capita water use					X			
Unit water use (e.g. AF/account or AF/irrigated acre)					X			
Large users					X	X		
Other Demand Related Data								
Population					X			
New taps					X	X		

SECTION 6.0 – ADOPTION OF NEW POLICY, PUBLIC REVIEW, AND FORMAL APPROVAL

6.1 Public Review Process

A public review process is required for all State-approved plans. This process helps to capture the values and opinions of the community to improve the quality of the Plan. For this water efficiency planning process, the public was notified of a 60-day comment period from May 2, 2019 to July 3, 2019. The public notification also included instructions on how to review the Plan and submit comments. The Plan was available for download on Eaton's website on the Public Notices and Home/Main webpages. A hard copy was also available at the Town Hall for review by citizens. No public comments were received during the 60-day comment period. Copies of the public notice announcement and the official Plan adoption resolution are provided in **Appendix E**.

6.2 Local Adoption and State Approval Process

The Plan must be formally adopted by the local governing entity. After the public comment period, additional language on land use planning was added into the plan. A revised copy of the Plan was provided to the Eaton Town Board for review and comment and the Town Board formally adopted the Plan at the Board Meeting on July 18, 2019. A copy of the Plan was submitted to the CWCB after the Board Meeting for formal approval.

The CWCB provided a formal letter of the Plan approval on November 27, 2019. The cover letter prepared for CWCB, CWCB's Approval Checklist, and CWCB's formal approval letter are included in **Appendix F**. Implementation of the selected water efficiency activities in this Plan will likely begin in the fall of 2019.

6.3 Periodic Review and Update

Water efficiency planning is the most successful at creating long-term water savings when the conservation efforts are reevaluated on an ongoing basis instead of a "one-time" planning effort. MWEPs are required to include the steps necessary to review and revise the Plan over time. Eaton will periodically review and update this Plan with the following three steps:

1. *Assign a department or staff member responsible for taking the lead in initiating a Plan Update.* Eaton's Town Administrator will be the responsible party for this task.
2. *Outline the process of how monitoring results will be incorporated into Plan Updates*. Results collected through Eaton's monitoring plan process will be evaluated and incorporated in future Plan Updates. This will be completed by summarizing and comparing monthly and annual data including, but not limited to, total treated water use, treated water use by

customer category, and per-capita water use over the seven-year Plan period. Water use trends and other information discovered through this process, including community feedback, will guide the Town's future planned activities and decision-making. The implemented water efficiency activities will be described in future Plan Updates. Any documented changes to the Plan may also be noted.

3. *Complete the next required Plan Update, not to exceed seven years from the date of this Plan.* The Town's next update is scheduled to be completed in 2024.

APPENDIX A

Definition of Terms

DEFINITION OF TERMS & TERMINOLOGY

This section provides an overview of many acronyms, terms, and terminology that are commonly used in water efficiency and water planning. Some additional terms are included that are common in this geographical area. Please note that this is not a comprehensive list of all terms and definitions. Other important terminology is reserved for discussion within the document. Not all of the following terms are used within the main body of this document.

AF:	Acre-foot: The amount of water it would take to cover one acre of land to a depth of one foot; approximately 325,851 gallons.
AMI:	AMI stands for Advanced Metering Infrastructure. AMI meters, also known as Smart meters are updated, digital versions of the traditional electrical meter attached to the outside of a home or business. These new meters not only measure how much water (electrical and other meters are also common) is used, but also at what times during the day. More advanced Smart meters are also designed to transmit pricing and water information from the utility company to the consumer (two-way communication). Utility companies who provide their customers with Smart meters are able to implement a variety of water reduction and saving programs, helping reduce the cost of providing water to a community.
AMR:	AMR stands for Automatic Meter Reading. It is an older technology that only collects electrical energy consumption and transfers that data from the electric meter on the home to the utility (one-way communication). Typically AMR meters are a “drive-by” type that require the utility to be in close proximity in order to read the meter. Also see AMI.
Average Day Demand:	Average daily treatment plant production divided by the total tap equivalents served.
BMP:	Best Management Practice
Build-out:	Theoretical maximum development of city, town, district, or service area.
C-BT:	Colorado Big Thompson (see Northern Water)

C-BT Quota:	The percentage set by the NCWCD Board of Directors each water year which determines the amount of ac-ft per unit of C-BT, i.e. 70% quota equals 0.7 ac-ft per C-BT unit.
ReCen:	Resource Central: ReCen offers multiple programs including "Garden in a Box", "Slow the Flow", "Toilet Upgrades", and more. ReCen is a non-profit organization that offers many programs that can assist communities with conservation efforts. The benefit for relatively small water providers, such as Eaton, is the ReCen helps to greatly reduce planning efforts, startup costs, and labor that can be associated with getting efficiency activities up and running. ReCen has the programs already set up and in place, so the Town will know exactly what the upfront costs will be. Additionally, ReCen hires and trains local technicians to provide the various services they offer, another value added component of ReCen programs.
CWCB:	Colorado Water Conservation Board
Demand management:	The implementation of water efficiency activities to reduce water deliveries (demands) and or improve efficiencies within the distribution system. For purposes of this document, demand management refers to both system and customer water demands. Demand management is used interchangeably with water efficiency.
Demand-side:	The distribution and consumption of treated water supplies for domestic purposes or the delivery and use of reclaimed water or untreated raw (i.e. ditch water, groundwater) for non-potable purposes such as irrigation or industrial processes.
Dual water supply systems:	Water supply systems that use a combination of treated water to meet potable water needs and reclaimed water and/or non-treated water (i.e. untreated ditch water and groundwater) to meet non-potable water needs.
ELCO:	East Larimer County Water District
ET:	Evapotranspiration: The rate at which water is removed from the soil by evaporation and from plant surfaces by transpiration.
ET Controllers:	Evapotranspiration controllers adjust the amount of water applied from sprinkler systems based on soil moisture and weather conditions.
FCLWD:	Fort Collins-Loveland Water District

GMA:	Growth Management Area
GPCD:	Gallons per capita per day: A measure of efficiency to determine the approximate amount of water that each resident within an area utilizes each day.
Maximum Day:	The largest amount of water used in a single day.
MG:	Million gallons
MGD:	Million gallons per day
MWEP:	Municipal Water Efficiency Plan
NCWCD:	Northern Colorado Water Conservancy District. More often referred to as Northern Water (see Northern Water).
NEPA:	National Environmental Policy Act
NISP:	Northern Integrated Supply Project (see Northern Water)
Non-Potable Use:	Water that is not treated and used for irrigation or other uses.
Non-revenue water:	Annual non-revenue water (previously referred to as unaccounted for water) consists of unbilled authorized uses (i.e. hydrant flushing), apparent losses, and real losses. Real losses consist of leaks in the water distribution system that does not reach the end user. Apparent losses consist of unauthorized consumption, customer metering inaccuracies, and data handling errors.
Northern Water:	Northern Colorado Water Conservancy District. Supplies the C-BT water for the SCFP which in turn supplies NWCWD with water for its customers. Other projects include Windy Gap and NISP.
NPIC:	North Poudre Irrigation Company
NWCWD:	North Weld County Water District
Peak Hour:	The largest amount of water used in a single hour – typically occurs on the Maximum Day.
Phreatophytes:	Species of plants and trees that consume groundwater through their root zones below the water table such as Cottonwood and Russian Olive trees.
PIF:	Plant Investment Fee, fee charged to developers for on-going maintenance cost of infrastructure replacement and repair.

Potable Use:	Water that is treated to drinking water standards for municipal use, including residential and commercial use.
SCFP:	Soldier Canyon Filter Plant
SFE:	Single Family Equivalent, unit of measure used in planning to adjust water use for multi-family dwellings, such as townhomes or condominiums, to a single residential equivalent.
Supply-side:	Water supply operations and facilities that include the diversion, extraction, storage, and transmission of untreated water.
SWSI:	Statewide Water Supply Initiative
System water demand:	Volume of water necessary to meet customer water needs within a certain period of time. System water demand is typically measured at the point of discharge from the water treatment plant and includes non-revenue water. In dual water supply systems, system water demand may also include the distribution and delivery of non-potable water (i.e.: reclaimed water and untreated ditch and groundwater) to meet irrigation needs.
TE:	Tap Equivalent, unit of measure often used by providers to adjust water use for larger taps such as multi-family or commercial, to a single residential tap equivalent. A typical single residential tap is either ⅝" or ¾".
Water efficiency:	Water efficiency includes the practices, techniques, and technologies that extend water supplies either directly through water savings or through substituting alternative supplies such as reuse. For purposes of this document, water efficiency is inclusive of water conservation and is used instead of "water conservation." The term water efficiency captures the essential objective of a local plan which is to improve the efficiency of a municipal demand and water supply system. Water efficiency includes both system demands and customer water demands. *Note: CWCB's former 2005 Water Conservation Plan Development Guidance Document and other literature on conservation and water use efficiency distinguish supply-side and demand-side water use efficiency. These resources generally characterize demand-side as technical efficiencies (e.g. water efficient toilets) and behaviors (e.g. taking shorter showers) that save water at the end use/water user level. Supply-side refers to water efficiency at the system level such as the repair of pipeline leaks and water reuse. For purposes of this Plan, the distinction between these water efficiency encompasses both supply and demand side efficiencies.*

Water efficiency activities:	Traditionally water efficiency activities have been referred to as water conservation measures and or water conservation programs. For purposes of this document, measures and programs are replaced with water efficiency activities. Water efficiency activities encompass all efforts to either save water or improve efficiencies within a water supply system.
WCP:	Water Conservation Plan. CWCB's previous designation for (Municipal) Water Efficiency Plans.
Wind and Rain Sensor:	A device that is connected to the irrigation system controller that will temporarily shut off irrigation when a pre-determined amount of rain or wind is detected.
WSSC:	Water Supply and Storage Company
WTP:	Water treatment plant
WWTP:	Wastewater treatment plant

APPENDIX B

Municipal Water Efficiency Plan Guidance Document Worksheets

WORKSHEET A - WATER SUPPLY LIMITATIONS AND FUTURE NEEDS

Limitation and/or Future Need [1]	[2] Yes	[2] No	Comments on Limitation or Future Need [3]	How is Limitation or Future Need Being Addressed [4]
System is in a designated critical water supply shortage area	X		SWSI 2010 identified a 58% supply gap in South Platte Basin by 2020.	Water Efficiency Plan is being developed and activities are being investigated and planned.
System experiences frequent water supply shortages and/or emergencies		X	None.	
System has substantial non-revenue water		X	Averaged 10% Non-Revenue Water (2012 - 2017).	
Experiencing high rates of population and demand growth		X	Last five years, population increased by about 3% per year. May experience higher growth again in the future depending on general population increases along the Front Range.	Became participant of NISP for future water supplies. Proactively partnering with Northern Water and ReCen on water efficiency activities.
Planning substantial improvements or additions		X	Adding a new 20-inch water main from Severance. Otherwise, only as development occurs and warrants it.	
Increases to wastewater system capacity anticipated		X	New WTP anticipated in future but not during this Plan's 7-year planning period.	
Need additional drought reserves		X	None needed at this time.	
Drinking water quality issues		X	None.	
Aging infrastructure in need of repair		X	Only as needed. Some clay pipes are 100+ years old; however, much of the system is newer.	
Issues with water pressure in portions of distribution system	X		Non-potable outdoor use in the summer taxes the well pumps and the Town experiences low pressure issues.	Water Efficiency Plan is being developed and activities are being investigated and planned.

Instructions:
[1] This column provides a list of limitations/future needs related to planning and operating the water supply system.
[2] Enter an "X" to show whether or not the system exhibits the limitations/future needs.
[3] Include any comments regarding the limitations/future needs that may be useful to consider in the planning process.
[4] If applicable, include how the limitation/future need is being addressed.

WORKSHEET D - IDENTIFICATION AND SCREENING OF FOUNDATIONAL ACTIVITIES

Water Efficiency Activities for Screening [1]	State Statute Requirement [2]	Identification		Qualitative	Carry to Evaluation [6]	Reason for Elimination [7]
		Existing/ Potential Activity [3]	Targeted Customer Category [4]	Notes on Additional Pros/Cons to Consider		
Metering (BP1)	V, VII					
Automatic Meter Reading Installation and Operations	V, VII	E	All Categories		X	
Submetering for Large Users (Indoor and Outdoor)	V					Not a significant number of large water users to warrant submetering.
Meter Testing and Replacement	V					Town replaced meters recently.
Meter Upgrades	V	P	All Categories		X	
Identify Unmetered/Unbilled Treated Water Uses	V	P	Non-Revenue		X	
Advanced Metering Infrastructure Installation and Operations		P	All Categories		X	
Non-Potable Park Well Meters		E/P	Non-Potable Irrigation		X	
Data Collection - Monitoring and Verification (BP2)						
Frequency of Meter Reading	VII	E	All Categories		X	
Tracking Water Use by Customer Type	VII	E	All Categories		X	
Upgrade Billing System to Track Use by Sufficient Customer Types	VII	E/P	All Categories		X	
Tracking Water Use for Large Customers	VII	E	All Categories		X	
Area of Irrigated Lands in Service Area (e.g. acres)						Not a priority for the Town. May be reevaluated in future planning efforts.
Water Use Efficiency Oriented Rates and Tap Fees (BP1)	VII, VIII					
Volumetric Billing	VII, VIII	E/P	All Categories [a]		X	
Water Rate Adjustments	VII, VIII				X	
Frequency of Billing	VII				X	
Inclining/Tiered Rates	VII, VIII				X	
Water Budgets	VII, VIII				X	
Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)	VII, VIII	P	All Categories [a]		X	Ultimately, Town did not select for implementation due to the potential lack of community support. May be evaluated in future planning efforts.
System Water Loss Management and Control (BP3)	V					
System Wide Water Audits	V	P	Non-Revenue		X	
Control of Apparent Losses (with Metering)	V					Not a priority for the Town.
Leak Detection and Repair	V	E/P	Non-Revenue		X	
Water Line Replacement Program	V					Not a priority for the Town. Some older lines replaced when issues arise or during construction projects.
Planning (BP2)						
Integrated Water Resources Plans		E/P	All Categories		X	
Master Plans/Water Supply Plans					X	
Capital Improvement Plans					X	
Feasibility Studies						Not a priority for the Town.
Drought Management Plan		P	All Categories		X	
Staff (BP4)						
Water Conservation Coordinator						Staff, time and budget constraints. Resources not available for this activity.

Instructions:
[1] This column provides a list of possible activities & identifies the Best Practice activity as defined in the Colorado WaterWise Guidebook of Best Practices (BP) for Municipal Water Conservation in Colorado. List additional activities identified through the planning process.
[2] This column identifies, by roman numeral, the elements that correspond with the best practices and that shall be fully considered in the planning process per Colorado State Statute 37-60-126.
[3] Specify whether the activity is "Existing" or a "Potential" activity to carry through screening by entering an "E" or "P", respectively.
[4] As applicable, specify which customer category (residential, commercial, etc.) is/would be impacted by the activity.
[5] Enter screening criteria based on qualitative goals developed in Step 3 and insert an "X" for activities that meet the listed screening criteria. Note that the screening criteria for the Town was not included in this
[6] Based on the screening process, indicate which activities will be carried onto the evaluation phase with an "X".
[7] If eliminated via screening, comment on why.
Notes:
[a] All customer categories included except for Non-Revenue water.

WORKSHEET E - IDENTIFICATION AND SCREENING OF TARGETED TECHNICAL ASSISTANCE INCENTIVES

Water Efficiency Activities for Screening [1]	State Statute Requirement [2]	Identification						Qualitative Screening		
		Existing/ Potential Activity [3]	SWSI Framework Levels [4]			Targeted Customer Category [5]	Notes on Additional Pros/Cons to Consider	Carry to Evaluation [7]	Reason for Elimination [8]
			Level 1 Municipal Uses	Level 2 Customers with the Largest Water Use	Level 3 Customer Type(s) in Service Area				
Installation of Water Efficient Fixtures and Appliances	I								
Indoor Audits									Potential lack of community support.
Toilet Retrofits									Not a priority for the Town. Some may have limited benefit. Instead, Town will evaluate water conservation/audit kits as a Give-Aways.
Urinal Retrofits									
Showerhead Retrofits									
Faucet Retrofits (e.g. aerator installation)									
Water Efficient Washing Machines									
Water Efficient Dishwashers									
Efficient Swamp Cooler and Air Conditioning Use									
Low Water Use Landscapes	II								
Drought Resistant Vegetation									Not a priority for the Town. Focus is on xeriscaping. May be reevaluated in future planning efforts.
Removal of Phreatophytes									Potential lack of community support.
Irrigation Efficiency Evaluations/Outdoor Water Audits (Slow the Flow)	II	E			X	Residential, Commercial			
Outdoor Irrigation Controllers	II	P		X	X	Sprinkler			
Irrigation Scheduling/Timing									Town evaluated this under an Educational Activity, Post or Distribute ET Irrigation Scheduling.
Rain Sensors	II	P			X	Residential			
Residential Outdoor Meter Installations									Staff, time and budget constraints. Focus is on other programs to target residential water use.
Xeriscape									Focus is on Garden in a Box Program for residential/commercial users. Potential Town Xeriscape projects are included in the Xeriscape Demonstration Garden activity.
Other Low Water Use Landscapes (Slow the Flow Park Irrigation Audit)	II	P	X			Non-Potable Irrigation			
Irrigation Equipment Retrofits									Not a priority for the Town as most irrigation is from non-potable sources. Not a significant number of customers this activity would impact.
Water- Efficient Industrial and Commercial Water-Using Processes	III								
Specialized Nonresidential Surveys, Audits and Equipment Efficiency Improvements									Not a significant number of commercial water users. Town goals focused on residential water use.
Commercial Indoor Fixture and Appliance Rebates/Retrofits									
Cooling Equipment Efficiency									
Restaurant equipment									
Incentives	X								
Toilet Rebates									Not a priority for the Town. Some may have limited benefit. Instead, Town will evaluate water conservation/audit kits as a Give-Aways.
Urinal Rebates									
Showerhead Rebates									
Water Efficient Faucet or Aerator Rebates									
Water Efficient Washing Machine Rebates									
Water Efficient Dishwasher Rebates									
Efficient Irrigation Equipment Rebates									Not a priority for the Town as most irrigation is from non-potable sources. Not a significant number of customers this activity would impact.
Landscape Water Budgets Information and Customer Feedback									Not a priority for the Town.
Turf Replacement Programs/Xeriscape Incentives (Garden in a Box)	X	E			X	Residential, Commercial			
Give-aways (Water Audit Kits)	X	P			X	Residential, Commercial			

Instructions:

[1] This column provides a list of activities & if applicable, identifies the Best Practice activity as defined under *Colorado WaterWise Guidebook of Best Practices (BP) for Municipal Water Conservation in Colorado*. List additional activities identified through the planning process.
[2] This column identifies, by roman numeral, the elements that correspond with the best practices and that shall be fully considered in the planning process per Colorado State Statute 37-60-126.
[3] Specify whether the activity is an "Existing" or "Potential" activity to carry through screening by entering an "E" or "P", respectively.
[4] Specify which level the historical/potential activities fall under by entering an "X" in the appropriate column.
[5] As applicable, specify which customer category (residential, commercial, etc.) is/would be impacted by the activity.
[6] Enter screening criteria based on qualitative goals developed in Step 3 and insert an "X" for activities that meet the listed screening criteria. Note that the screening criteria for the Town was not included in this table.
[7] Based on the screening process, indicate which activities will be carried on the evaluation phase with an "X".
[8] If eliminated via screening, comment on why.

WORKSHEET F - IDENTIFICATION AND SCREENING OF ORDINANCES AND REGULATIONS

Water Efficiency Activities for Screening [1]	State Statute Requirement [2]	Identification					Qualitative	Carry to Evaluation [7]	Reason for Elimination [8]
		Existing/ Potential Activity [3]	SWSI Framework Levels [4]			Targeted Customer Category [5]	Notes on Additional Pros/Cons to Consider		
			Level 1 Customer Type(s) within the Existing Service Area	Level 2 New Development	Level 3 Point of Sales on Existing Building Stock				
General Water Use Regulations	IX								
Water Waste Ordinance (BP 5)	IX	P	X	X		All Categories [a]		X	
Time of Day Watering Restriction	IX	E	X	X		All Categories [a]		X	
Day of Week Watering Restriction	IX	E	X	X		All Categories [a]		X	
Water Overspray Limitations									Not a priority for the Town.
Landscape Design/Installation Rules and Regulations	IX								
Rules and Regulations for Landscape Design/Installation (BP 9)	IX	P		X		All Categories [a]		X	
Landscaper Training and Certification (BP 8)									Staff, time and resource constraints.
Irrigation System Installer Training and Certification (BP 8)									Staff, time and resource constraints.
Soil Amendment Requirements (BP 9)	IX	P		X		All Categories [a]		X	
Turf Restrictions (BP 9)	IX	P		X		All Categories [a]		X	
Irrigation Equipment Requirements	IX	P	X	X		All Categories [a]		X	
Outdoor Water Audits/Irrigation Efficiency Regulations (BP 10)									Not a priority for the Town. Focus is on voluntary Slow the Flow Program residential outdoor audits.
Outdoor Green Building Construction (BP 8,9)									
Indoor and Commercial Regulations	IX								
High Efficiency Fixture and Appliance Replacement (BP 12)									
Commercial Cooling and Process Water Requirements (BP 14)									
Green Building Construction (BP 12)									
Indoor Plumbing Requirements (BP 12)									
City Facility Requirements (BP 12)									
Required Indoor Residential Audits (BP 13)									
Required Indoor Commercial Audits (BP 14)									
Commercial Water Wise Use Regulations (Car Washes, Restaurants, etc.)	IX	P	X	X		Commercial		X	Ultimately, Town did not select for implementation as there are not a significant number of commercial water users.
Town Facility Requirements	IX	P	X					X	

Instructions:
[1] This column provides a list of possible activities & if applicable identifies the Best Practice activity as defined under Colorado WaterWise Guidebook of Best Practices (BP) for Municipal Water Conservation in Colorado. List additional activities identified through the planning process.
[2] This column identifies, by roman numeral, the elements that correspond with the best practices and that shall be fully considered in the planning process per Colorado State Statute 37-60-126.
[3] Specify whether the activity is an "Existing" or "Potential" activity to carry through screening by entering an "E" or "P", respectively.
[4] For current/historical activities, specify which level the activities fall under by entering an "X" in the appropriate column.
[5] As applicable, specify which customer category (residential, commercial, etc.) is/would be impacted by the activity.
[6] Enter screening criteria based on qualitative goals developed in Step 3 and insert an "X" for activities that meet the listed screening criteria. Note that the screening criteria for the Town was not included in this table.
[7] Based on the screening process, indicate which activities will be carried on the evaluation phase with an "X".
[8] If eliminated via screening, comment on why.
Notes:
[a] All customer categories included except for Non-Revenue water.

WORKSHEET G - IDENTIFICATION AND SCREENING OF EDUCATION ACTIVITIES

Water Efficiency Activities for Screening [1]	State Statute Requirement [2]	Identification					Qualitative Screening	Carry to Evaluation [7]	Reason for Elimination [8]
		Existing/ Potential Activity [3]	SWSI Framework Levels [4]			Targeted Customer Category [5]	Notes on Additional Pros/Cons to Consider		
			Level 1 One-Way	Level 2 One-Way with Feedback	Level 3 Two-way communication				
Customer Education (BP6)	VI								
Bill Stuffers	VI	P	X			All Categories [a]		X	
Newsletter									Did not include Newsletters as Eaton doesn't have one.
Newspaper Articles	VI	P	X					X	
Mass Mailings									Did not include. Focus is on Bill Stuffers and Newspaper Articles as paper marketing outreach.
Web Pages	VI	P	X					X	
Water Fairs	VI	P		X		Residential		X	
K-12 Teacher and Classroom Education Programs									Not a priority for the Town. May reevaluate in future planning efforts.
Message Development/Campaign	VI		X			All Categories [a]			
Interactive Websites	VI	P		X		All Categories [a]		X	
Social Networking (e.g. Facebook)	VI	P		X		All Categories [a]		X	
Customer Surveys									Not a priority for the Town. Staff and time constraints.
Focus Groups									Not a priority for the Town. Staff and time constraints.
Citizen Advisory Boards									Not a priority for the Town. Staff and time constraints.
Technical Assistance	VI								
Customer Water Use Workshops									Not a priority for the Town. Staff, time and budget constraints.
Landscape Design and Maintenance Workshops									Staff, time and budget constraints. Interested citizens can attend Northern Water's workshop.
Xeriscape Demonstration Garden	VI	P				Residential, Commercial, Non-Pot Irrigation			
Water Conservation Expert Available									Staff, time and budget constraints. Resources not available for this activity.
Post or Distribute ET Irrigation Scheduling		P	X			All Categories [a]		X	

Instructions:
[1] This column provides a list of possible activities & if applicable identifies the Best Practice activity as defined under Colorado WaterWise Guidebook of Best Practices (BP) for Municipal Water Conservation in Colorado. List additional activities identified through the planning process.
[2] This column identifies, by roman numeral, the elements that correspond with the best practices and that shall be fully considered in the planning process per Colorado State Statute 37-60-126.
[3] Specify whether the activity is an "Existing" or "Potential" activity to carry through screening by entering an "E" or "P", respectively.
[4] For current/historical activities, specify which level the activities fall under by entering an "X" in the appropriate column.
[5] As applicable, specify which customer category (residential, commercial, etc.) is/would be impacted by the activity.
[6] Enter screening criteria based on qualitative goals developed in Step 3 and insert an "X" for activities that meet the listed screening criteria. Note that the screening criteria for the Town was not included in this table.
[7] Based on the screening process, indicate which activities will be carried on the evaluation phase with an "X".
[8] If eliminated via screening, comment on why.
Notes:
[a] All customer categories included except for Non-Revenue water.

WORKSHEET J - IMPLEMENTATION PLAN

Selected Water Efficiency Activities [1]	Period of Implementation [2]	Implementation Actions [3]	Entity/Staff Responsible for Implementation [6]	Coordination and Public Involvement [7]
Foundational Activities				
System Wide Water Audits	Next 5-7 years	Take IWA/AWWA Water Audit Method training program through Colorado WaterWise and download software.	Administration/Public Works	
Automatic Meter Reading Installation and Operations	Ongoing	n/a	Administration/Public Works	
Advanced Metering Infrastructure Installation and Operations	Next 7-10 years	Research costs and grant opportunities.	Administration/Public Works	
Water Rate Study - Water Efficient Rate Structure with Regular Updates	Next 1-2 years	Develop a request for proposal and contract a consultant to complete.	Administration	Update water rates and notify public.
Leak Detection and Repair Program	Next 4 years	Request quote from consultant and schedule next program.	Administration	
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	Next 1-10 years	Continue periodic updates to Comprehensive Plan; Future goals are to complete a Capital Improvement Plan and a Treated Water Master Plan.	Administration	
Drought Management Plan	Next 1-3 years	Develop a request for proposal and contract a consultant to complete; Submit grant application to CWCB.	Administration	
Non-Potable Well Meters at Subdivisions	Next 7-10 years	Conduct assessment of non-potable wells; Get a quote from a consultant for meters; Contact CO Energy Office regarding grant opportunities.	Administration/Public Works	
General Monitoring and Verification Activities and General Water Rates and Billing	Ongoing	n/a	Administration	
Targeted Technical Assistance and Incentives				
Slow the Flow Commercial Irrigation Audits	Next 1-3 years	Contact ReCen to set up program.	Administration	Contact ReCen; Advertise program to businesses.
Slow the Flow Park Irrigation Audits	Next 1-3 years	Contact ReCen and/or Northern Water to set up program.	Administration/Public Works	Contact listed partners.
Slow the Flow Residential Irrigation Audits	Ongoing	Continue existing measure with ReCen.	Administration	Advertise program to residents.
Giveaways: Water Audit Kits	Next 3-5 years	Request quote from AM Conservation Group or other kit provider.	Administration	Provide an information/giveaway booth at community events.
Xeriscape Incentives - Garden in a Box	Ongoing	Continue existing measure with ReCen.	Administration	Advertise program to residents.
Outdoor Irrigation Controllers and Rain Sensors - Giveaways or Rebates	Next 3-5 years	Request quote from Rain Bird or another provider.	Administration	Provide an information/giveaway booth at community events.
Ordinances and Regulations				
Weekly and Time of Day Outdoor Watering Restrictions	Ongoing	Continue existing measure	Administration	Notify the public of ordinances/regulations.
Water Waste Ordinance	Next 1-3 years	Develop potential ordinance and propose to Town Board	Administration	
Landscape Design Ordinances and Restrictions	Next 1-3 years	Develop potential ordinance and propose to Town Board	Administration	
Town Facility Requirements	Next 1-3 years	Research cost to upgrade toilets and fixtures in Town buildings; Develop potential requirements and propose to Town Board	Administration	
Education Activities				
Bill Stuffers	Next 1-3 years	Prepare educational materials to distribute.	Administration	Look into partnering with Colorado WaterWise, Northern Water or other organizations for educational campaigns.
Newspaper Articles	Next 1-3 years	Prepare article and submit it to the newspaper.	Administration	
Interactive Webpages and Website Updates	Ongoing	Continue existing measure; Add additional info to conservation page.	Administration	
Social Networking (Facebook & Twitter)	Next 1-3 years	Develop a plan for social media marketing efforts.	Administration	
Message Development/Campaign	Next 1-3 years	Contact WaterWise regarding marketing materials.	Administration	
Children's Water Fair or Festival	Next 1-3 years	Participate in Northern Water's next water fair; Contact school representatives to organize.	Administration	Contact Northern Water about participation.
Post or Distribute ET Irrigation Scheduling	Next 1-3 years	Determine distribution method; Research Northern Water's ET Irrigation Scheduler.	Administration	Notify public of the schedule.
Xeriscape Demonstration Garden	Next 1-3 years	Continue working with Northern Water to develop; May also contact Denver Botanic Gardens, ReCen or CSU for help in design; Contact local organizations to volunteer in planting and upkeep.	Administration	Contact listed organizations for partnering opportunities; Notify public of gardens.

Instructions:
[1] Provide the list of water efficiency activities selected for implementation during Step 4.
[2] Provide period in which activity is going to be implemented.
[3] Include information on specific actions necessary to implement the activities (e.g. advertise rebates to public).
[4] Indicate timing of when the action are scheduled to be implemented (e.g. when leaks will be repaired, when rebate program will start, etc.). Note that the Town did not include deadlines.
[5] Insert anticipated annual costs. Note that the Town did not include costs.
[6] Specify which entity/staff responsible for implementing the activities.
[7] If applicable, comment on necessary coordination among staff/other entities and how the public will be involved. This includes educational campaigns, feedback, direct participation in certain actions, etc.
[8] Add any additional comments. Note that the Town did not include additional comments.

WORKSHEET K - SELECTION OF MONITORING DEMAND DATA FOR MONITORING PLAN

Monitoring Data [1]	HB 10-1051 Reporting Requirement [2]				Selection [3]				Entity/Staff Responsible for Data Collection and Evaluation [4]	Comments [6]
	Annual	Monthly	Bi-Monthly	Daily	Annual	Monthly	Bi-Monthly	Daily		
Total Water Use										
Total treated water produced (metered at WTP discharge)					X	X			Administration/Public Works	Data from NWCWD meter.
Total treated water delivered (sum of customer meters)	√				X	X			Administration	Data from billing software.
Raw non-potable deliveries										
Reclaimed water produced (metered at WWTP discharge)										
Reclaimed water delivered (sum of customer meters)										
Per capita water use					X				Administration	Calculation based on the total billed water (data from billing software) and the population (estimates by Town or from State Demography Office).
Indoor and outdoor treated water deliveries										
Treated water peak day produced										
Reclaimed water peak day produced										
Raw water peak day produced/delivered										
Non-revenue water	√				X				Administration	Calculation based on the total treated water at the WTP less the total billed water.
Water Use by Customer Type										
Treated water delivered		√			X	X			Administration	Data from billing software.
Raw non-potable deliveries										
Reclaimed water delivered										
Residential per capita water use					X				Administration	Calculation based on the residential billed water (data from billing software) and the population (estimates by Town or from State Demography Office).
Unit water use (e.g. AF/account or AF/irrigated acre)					X				Administration	Estimated based on the billed water by customer category and the number of taps.
Indoor and outdoor treated water deliveries										
Large users					X	X			Administration	Evaluated through billing software and/or observations.
Other Demand Related Data										
Irrigated landscape (e.g. AF/acre or number of irrigated acres)										
Precipitation										
Temperature										
Evapotranspiration										
Drought index information										
Economic conditions										
Population					X				Administration	Based on State Demography Office estimates and/or internal estimates from the Town's planning efforts.
New taps					X	X			Administration/Public Works	Data is the number of taps in the service area.

Instructions:

[1] This worksheets provides a list of possible demand data. Add additional demand data provider would like to monitor.

[2] Specifies annual reporting requirements per HB 10-1051.

[3] Select demand data provider plans to use to monitor effectiveness of water efficiency activities by inserting an "X" in appropriate boxes.

[4] Specify staff/entity responsible for data collection and evaluation.

[5] Specify the timing and/or set schedule in which data will be collected and evaluated. Note that the Town did not specify the timing or set a schedule in this table.

[6] Add any additional comments.

APPENDIX C

Additional Tables

Table C1: Water Effciency Activity Evaluation

Water Efficiency Activities for Evaluation	Existing/ Potential Activity	Targeted Customer Category	Review of Qualitative Screening: Qualitative Goals: Benefit in Water Savings	Low Financial Implications	Staff Approval and Availability	Partnership Possibility	Board and Public Approval	Existing or Planned Project	Overlap of Criteria	Evaluation: Projected Water Savings: Total Water Savings over the Planning Period (MG)	Total Water Savings over the Planning Period (AF)	Average Annual Water Savings (MG/yr)	Average Annual Water Savings (AF/yr)	Cost per 1,000 gal saved	Projected Implementation Costs over Planning Period Including Lost Revenue	Quantitative Goals: Helps to Achieve Overall Savings Goals	Low Cost w/ Significant Water Savings	Beneficial to Community	Final Selection: Notes on Additional Pros/Cons to Consider	Selected for Implementation
Foundational Activities																				
System Wide Water Audits	P	Non-Revenue	X	X	X		X		X	**1.8**	**5.42**	**0.18**	**0.54**	**$5.72**	**$10,108**	X	X			X
Automatic Meter Reading Installation and Operations	E	All Categories	X		X		X	X	X	**13.7**	**42.19**	**1.37**	**4.22**	**$24.82**	**$341,240**	X		X		X
Advanced Metering Infrastructure Installation and Operations	P	All Categories	X		X		X		X	**141.2**	**433.25**	**14.12**	**43.33**	**$13.41**	**$1,893,524**	X		X		X
Water Rate Study - Water Efficient Rate Structure with Regular Updates	E/P	Residential, Commercial, Industrial, Sprinkler	X	X	X		X	X	X	**113.7**	**348.88**	**11.37**	**34.89**	**$4.46**	**$507,581**	X	X	X		X
Leak Detection and Repair Program	E/P	Non-Revenue	X	X	X		X	X	X	**17.7**	**54.22**	**1.77**	**5.42**	**$2.08**	**$36,785**	X	X			X
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	E/P	All Categories	X		X		X	X	X	**13.7**	**42.19**	**1.37**	**4.22**	**$14.37**	**$197,539**	X		X		X
Drought Management Plan	P	All Categories	X		X		X		X	**27.5**	**84.37**	**2.75**	**8.44**	**$8.13**	**$223,591**	X	X	X		X
Non-Potable Account Meters at Subdivisions	E/P	Non-Pot Irrigation	X	X	X		X	X	X	**35.6**	**109.40**	**3.56**	**10.94**	**$0.88**	**$31,284**	X	X			X
General Monitoring and Verification Activities and General Water Rates and Billing	E	All Categories	X	X	X		X	X	X	**6.9**	**21.09**	**0.69**	**2.11**	**$6.62**	**$45,486**	X	X	X		X
Targeted Technical Assistance and Incentives																				
Slow the Flow Commercial Irrigation Audits	P	Commercial	X		X	X	X		X	**2.3**	**7.03**	**0.04**	**0.13**	**$20.30**	**$46,472**	X				X
Slow the Flow Park Irrigation Audits	P	Non-Pot Irrigation	X	X	X	X	X	X	X	**13.8**	**42.44**	**1.38**	**4.24**	**$0.41**	**$5,617**	X	X			X
Slow the Flow Residential Irrigation Audits	E	Residential	X		X	X	X	X	X	**2.2**	**6.90**	**0.04**	**0.13**	**$20.54**	**$46,186**	X				X
Giveaways: Water Audit Kits	P	Residential, Commercial	X		X		X		X	**0.7**	**2.24**	**0.01**	**0.04**	**$53.47**	**$39,098**	X				X
Xeriscape Incentives - Garden in a Box	E	Residential	X		X	X	X	X	X	**0.1**	**0.36**	**0.00**	**0.01**	**$40.08**	**$4,741**	X				X
Outdoor Irrigation Controllers and Rain Sensors - Giveaways or Rebates	P	Residential, Sprinkler	X		X		X		X	**2.4**	**7.33**	**0.04**	**0.13**	**$14.64**	**$34,965**	X				X
Ordinances and Regulations																				
Weekly and Time of Day Outdoor Watering Restrictions	E	Residential, Commercial, Industrial, Sprinkler	X	X	X		X	X	X	**2.2**	**6.60**	**0.22**	**0.66**	**$9.39**	**$20,210**	X	X	X		X
Water Waste Ordinance	E	Residential, Commercial, Industrial, Sprinkler	X		X		X		X	**1.1**	**3.30**	**0.11**	**0.33**	**$11.74**	**$12,632**	X		X		X
Landscape Design Ordinances and Restrictions	P	Residential, Commercial, Industrial, Sprinkler	X	X	X		X		X	**7.8**	**24.00**	**0.78**	**2.40**	**$9.60**	**$75,090**	X	X	X		X
Town Facility Requirements	P	Town (Commercial)	X		X		X		X	**0.3**	**0.77**	**0.03**	**0.08**	**$19.48**	**$4,913**	X				X
Education Activities																				
Bill Stuffers	P	Residential, Commercial, Industrial, Sprinkler	X	X	X		X		X	**45.4**	**139.2**	**4.5**	**13.9**	**$8.21**	**$372,557.92**	X	X	X	Note: these activities are combined.	X
Newspaper Articles	P		X	X	X		X		X							X	X	X		X
Interactive Webpages and Website Updates	E		X	X	X		X	X	X							X	X	X		X
Social Networking (Facebook & Twitter)	P		X	X	X		X		X							X	X	X		X
Message Development/Campaign	P		X	X	X	X	X		X							X	X	X		X
Children's Water Fair or Festival	P	Residential	X	X	X	X	X		X	**1.3**	**3.97**	**0.02**	**0.07**	**$12.48**	**$16,139.56**	X				X
Post or Distribute ET Irrigation Scheduling	P	Residential, Commercial, Industrial, Sprinkler	X		X		X		X	**21.5**	**66.04**	**2.15**	**6.60**	**$37.17**	**$799,782**	X		X		X
Xeriscape Demonstration Garden	P	Residential, Commercial, Non-Pot Irrigation	X	X	X	X	X	X	X	**4.1**	**12.54**	**0.38**	**1.17**	**$7.72**	**$31,535**	X	X			X

APPENDIX D

Activity Cost and Benefit Analysis

System Wide Water Audits

By implementing System Wide Water Audits, the Town could identify unmetered and unbilled treated water uses in order to assess where losses are occurring and how losses can be addressed. These losses are considered Non-Revenue water. The Town may utilize the IWA/AWWA Water Audit Method published in the AWWA Manual of Practice M36 to conduct a "top down approach."

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.5%

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue Water	35.34	176,690

Estimated Annual Water Savings	**0.18**	MG/yr
Estimated Savings over Planning Period	**1.8**	MG

Notes:

By specifically identifying these losses, additional actions can be taken to reduce the water lost. This measure has the potential to improve all categories, but Non-Revenue is the main category assumed. A conservative reduction of 0.5% of projected annual water use was assumed.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	20	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$1,010.80	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$1,010.80**	/year

Notes:

Estimated costs for Staff to spend approximately 20 hours per year at $50.54/hour to conduct audits.

The 20 hours is based on other water providers' time estimates to complete audits. Although some revenue may be lost on the demand side, more revenue will likely be realized on the supply side.

Estimated Annual Cost	**$1,011**	/year
Estimated Total Cost over Planning Period	**$10,108**	
Cost per 1000 Gallons Saved	**$5.72**	

Automatic Meter Reading Installation and Operations

Automatic Meter Reading (AMR) meters are meters in which data is retrieved via an automatic means such as a drive-by vehicle or walk-by handheld system. The benefits of AMR meters include improved billing accuracy and a reduction in the time and expense to read and bill meters. Eaton's customers are on AMR meters.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Customer Category	Avg. Annual Water Use over Planning Period (MG)	Estimated Annual Savings Rate	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue	35.34	0.5%	176,690
Residential	219.21	0.5%	1,096,047
Commercial	12.49	0.5%	62,455
Industrial	1.90	0.5%	9,506
Sprinkler	6.00	0.5%	29,979

Estimated Annual Water Savings	**1.37**	MG/yr
Estimated Savings over Planning Period	**13.7**	MG

Notes:

Because there is no customer interaction with an online webpage, savings is estimated to be relatively small. AMR meters are still an improvement over the older manual read meters because data can be processed quicker, and there are less sources for error.

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	509	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$25,719.81**	/year

Material Costs

Unit Cost	**$300.00**	/ meter
Number of Meters/Year	**0**	
Annual Materials	**$0.00**	/year

Notes:

Annual Staff Costs for this savings measure include data processing. Other costs, such as fuel and vehicle maintenance are not included since some costs would be associated with reading the meters no matter what the scenario.

Materials cost assumes the Town has already installed AMR meters for all customers.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$7.03
Commercial	$7.03
Industrial	$7.03
Sprinkler	$6.52

Water rates are based on a weighted average for each customer category and incorporate seasonal usage.

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$1,680,835	/year
Estimated Average Annual Revenue with Water Savings	$1,672,431	/year
Estimated Annual Revenue Loss Related to Water Savings	$8,404	/year

Estimated Annual Cost	**$34,124**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$257,198**	
Estimated Total Cost over Planning Period Including Lost Revenue	**$341,240**	
Cost per 1000 Gallons Saved	**$24.82**	

Advanced Metering Infrastructure Installation and Operations

Advanced Metering Infrastructure (AMI) is a metering system that records customer consumption hourly or more frequently and provides for daily or more frequent transmittal of measurements over a communication network to a central collection point. AMI systems have the capability to offer customers an interactive portal where they would get usage alerts and be able to view billing and metering data. This process may involve various steps of upgrading meters or adding registers to existing meters that would transmit usage information to the Town's metering system.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Customer Category	Avg. Annual Water Use over Planning Period (MG)	Estimated Average Annual Savings Rate	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue	35.34	1.0%	353,380
Residential	219.21	6.0%	13,152,566
Commercial	12.49	3.0%	374,732
Industrial	1.90	3.0%	57,036
Sprinkler	6.00	3.0%	179,871

Estimated Annual Water Savings	**14.12**	MG/yr
Estimated Savings over Planning Period	**141.2**	MG

Notes:

As more new meters are installed, the savings rate increases over the projected planning period. There are several influencing factors to the amount of savings realized including customer feedback and response, ease of incorporating new meters into the current system, etc.

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	127	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$6,429.95**	/year

Material Costs

Meter Cost (per unit)	**$300.00**	/ meter
Number of Meters/Year	**288**	
Annual Cost	**$86,280.00**	/year

Notes:

Annual Staff Costs for this savings measure include data processing. Other costs, such as fuel and vehicle maintenance are not included since some costs would be associated with reading the meters no matter what the scenario.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$7.03
Commercial	$7.03
Industrial	$7.03
Sprinkler	$6.52

Notes:

The annual revenue loss was estimated based on current rates for listed Town customers.

Estimated Average Annual Revenue without Water Savings	$1,680,835	/year
Estimated Average Annual Revenue with Water Savings	$1,584,193	/year
Estimated Annual Revenue Loss Related to Water Savings	$96,642	/year

Estimated Annual Cost	**$189,352**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$927,100**	
Estimated Total Cost over Planning Period Including Lost Revenue	**$1,893,524.40**	
Cost per 1000 Gallons Saved	**$13.41**	

Water Rate Study - Water Efficient Rate Structure with Regular Updates

Based on many studies, water rates (e.g., inclining and/or tiered) are one of the most effective ways to encourage efficient water use. A rate study is necessary to ensure maximum water conservation savings. Eaton is interested in completing an updated rate study. Because they are very interrelated, this measure also includes Volumetric Billing and Tiered Rates within it.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Customer Category	Avg. Annual Water Use over Planning Period (MG)	Annual Estimated Savings Rate	*Estimated Annual Water Savings (gal/yr)*
Residential	219.21	5.00%	10,960,472
Commercial	12.49	2.00%	249,821
Industrial	1.90	2.00%	38,024
Sprinkler	6.00	2.00%	119,914

Notes:

Assumed a conservative reduction of per customer category of projected total billed water. Rate change studies have often shown an even greater savings (e.g., Southwest Florida Water Management District study indicated a 13% savings). Conservative savings rates were applied to each category.

Estimated Annual Water Savings	**11.37**	MG/yr
Estimated Savings over Planning Period	**113.7**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	15	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$758.10	
Third Party Costs (Rate study)	$50,000.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)		/year
Annual Labor	**$50,758.10**	/year

Notes:

Annual Revenue Lost due to water savings is not incorporated into the Total Cost to Water Provider because these costs are absorbed and included in the rate adjustments to the customers.

Total Cost to Water Provider

Estimated Annual Cost	**$50,758**	/year
Estimated Total Cost over Planning Period	**$507,581**	
Cost per 1000 Gallons Saved	**$4.46**	

Leak Detection and Repair Program

The Town could perform this program in-house or use an outside consultant (e.g., American Leak Detection). Eaton typically completes a leak detection and repair program every four years using an outside consultant.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	5.0%	
Annual Estimated Non-Revenue Water without Savings	35.34	MG/yr
Estimated Annual Water Savings	**1.77**	MG/yr
Estimated Savings over Planning Period	**17.7**	MG

Notes:

The average system unaccounted leakage/loss rate is 10%.

Savings equals the current projected water usage of Non-Revenue water multiplied by the estimated savings rate.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	25	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$1,263.50	
Third Party Costs (Leak Detection Consult)	$2,415.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$3,678.50**	/year

Notes:

Third Party Costs include leak survey performed annually by a consultant.

Annual staff costs include coordination with consultants.

Estimated Annual Cost	**$3,679**	/year
Estimated Total Cost over Planning Period	**$36,785**	
Cost per 1000 Gallons Saved	**$2.08**	

Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans

Eaton plans to continue developing, updating, and evaluating plans (i.e. Master Plans, Water Efficiency Plans, etc.) that will improve its overall water efficiency and help plan for future use.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.50%

Notes:

This measure has the potential to improve all categories. A conservative reduction of 0.5% of projected annual water use was assumed.

Category	**Avg. Annual Water Use over Planning Period** (MG)	***Estimated Annual Water Savings*** *(gal/yr)*
Non-Revenue	35.34	176,690
Residential	219.21	1,096,047
Commercial	12.49	62,455
Industrial	1.90	9,506
Sprinkler	6.00	29,979

Estimated Annual Water Savings	**1.37**	MG/yr
Estimated Savings over Planning Period	**13.7**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	90	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$4,548.60	
Third Party Costs	$68,000.00	
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$11,348.60**	/year

Notes:

Estimated staff costs for Staff to spend an average of 90 hours per year at $50.54/hour to help develop the various Plans for the Town.

Third party costs include a consultant to aid staff in the development of these Plans. The cost is over the 10-year planning period.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on a weighted average of current rates for all customers.

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$1,681,055	/year
Estimated Average Annual Revenue with Water Savings	$1,672,650	/year
Estimated Annual Revenue Loss Related to Water Savings	**$8,405**	/year

Estimated Annual Cost	**$19,754**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$113,486**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$197,539**	
Cost per 1000 Gallons Saved	**$14.37**	

Drought Management Plan

Eaton plans to develop and update a Drought Management Plan (DMP) to improve its overall water efficiency and help plan for future use and drought periods.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	1.00%

Notes:

This measure has the potential to improve all categories. A conservative reduction of 1% of projected annual water use was assumed.

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue	35.34	353,380
Residential	219.21	2,192,094
Commercial	12.49	124,911
Industrial	1.90	19,012
Sprinkler	6.00	59,957

Estimated Annual Water Savings	**2.75**	MG/yr
Estimated Savings over Planning Period	**27.5**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	90	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$4,548.60	
Third Party Costs	$10,000.00	
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$5,548.60**	/year

Notes:

Estimated staff costs for Staff to spend an average of 90 hours per year at $50.54/hour to help develop and implement the DMP for the Town.

Third party costs include a consultant to aid staff in the development of a CWCB grant application. It assumes a DMP will be updated two times in the planning period.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on a weighted average of current rates for all customers.

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$1,681,055	/year
Estimated Average Annual Revenue with Water Savings	$1,664,244	/year
Estimated Annual Revenue Loss Related to Water Savings	**$16,811**	/year

Estimated Annual Cost	**$22,359**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$55,486**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$223,591**	
Cost per 1000 Gallons Saved	**$8.13**	

Non-Potable Account Meters at Subdivisions

In Eaton, several Subdivisions have dual systems and use non-potable water for irrigation from the Town's wells. The Town does not currently monitor water usage by customer account. Adding meters to customer accounts will allow the Town to understand the non-potable water usage at the acreage lots and parks in the Subdivisions. The Town may also bill customers for water usage by establishing water rates which encourage customers to use less water.

Planning Period	2018 to 2027
Years in Planning Period	10
Program Length	10

Estimated Water Savings

Use from Unmetered Wells at Subdivision/Property	Non-Potable Water Use (AF per year)	Non-Potable Water Use (gallons per year)
Maplewood	39.1	12,740,774
Governor's Ranch	36.5	11,893,562
Aspen Meadows	2.5	814,628
Hawkstone	137.5	44,804,513
Cobblestone	3.2	1,042,723
TOTAL	218.8	71,296,199

Annual Estimated Savings Rate	5.0%	
Estimated Annual Water Savings	**3,564,810**	gallons/yr
Estimated Savings over Planning Period	**35,648,099**	gallons

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	156	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$7,884.24	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$7,884.24**	/year
Materials Costs		
Unit Cost	$300.00	/item
Number of Meters	78	
Gallons Saved per Unit per Year	0	gallons
Annual Materials	**$23,400.00**	/year

Notes:

Annual Staff Costs for this savings measure include data processing. The materials cost assumes the Town installs a meter on each non-potable tap in each subdivision over the course of the 10-year planning period.

There may be a revenue gain if Eaton begins billing customers for non-potable water use.

Estimated Annual Cost	**$31,284.24**	/year
Estimated Total Cost over Planning Period Including Set-up	**$31,284.24**	
Cost per 1000 Gallons Saved	**$0.88**	

General Monitoring and Verification Activities and General Water Rates and Billing

Water savings is evident from Eaton's existing water monitoring and verification activities which include frequent meter reading and tracking of use for large water customers. Additionally, Eaton's water rates and billing encourage citizens to conserve water through volumetric billing with inclining/tiered rates, frequent billing and providing water budgets for certain large water users. The following calculates estimated savings for these activities.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.25%	

Notes:

These activities are estimated to save a quarter of a percent per year. Current system leakage/loss rate is estimated at 10%.

Category	**Avg. Annual Water Use over Planning Period** (MG)	***Estimated Annual Water Savings*** *(gal/yr)*
Non-Revenue	35.34	88,345
Residential	219.21	548,024
Commercial	12.49	31,228
Industrial	1.90	4,753
Sprinkler	6.00	14,989

Estimated Annual Water Savings	**0.69**	MG/yr
Estimated Savings over Planning Period	**6.9**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	90	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$4,548.60	
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$4,548.60**	/year

Notes:

Estimated staff costs for Staff to spend an average of 90 hours per year at $50.54/hour to help develop and implement these activities for the Town.

Revenue losses are absorbed by the usage rates customers pay.

Estimated Annual Cost	**$4,549**	/year
Estimated Total Cost over Planning Period	**$45,486**	
Cost per 1000 Gallons Saved	**$6.62**	

Slow the Flow Commercial Irrigation Audits

The Town may partner with Resource Central (ReCen) for irrigation audits for HOAs and businesses through the "Slow the Flow" program. "Slow the Flow's trained technicians perform a detailed analysis of your existing sprinkler system and will provide a comprehensive report detailing findings and recommendations to improve efficiency. The service will provide suggestions that will deliver measurable improvements in water use reduction, saving your business money, and supporting community conservation goals." -ReCen

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Participant Annual Estimated Savings Rate	5.0%

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (gal/tap)	*Estimated Annual Water Savings (gal/tap/yr)*	*Annual Program Participants (taps)*
Commercial	41,628	2,081	20

Estimated Annual Water Savings	**0.042**	MG/yr in Year 1
Estimated Savings over Planning Period	**2.3**	MG

Notes:

The outdoor use estimates are based on the following approximations for each customer category: Commercial = 43%.

Assumed a conservative estimate of 5% savings of projected outdoor water usage . Customers have to put Auditor's advice and suggestions into practice.

Program Participants based on other water providers' participation rates for similar programs.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	15	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$758**	/year
Third Party Costs		
Audit Cost	$114	
Number of Participants	20	/year
Annual Cost	**$2,280**	/year

Notes:

Costs include staff time for implementing (approximately 45 min. per participant). Program is largely organized by ReCen .

Third Party Costs include ReCen 's time. Residential audits = $114/audit

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Commercial	$7.03

Note:

The annual revenue loss was estimated based on current rates for the Residential customer category.

Estimated Average Annual Revenue without Water Savings	$32,181	/year
Estimated Average Annual Revenue with Water Savings	$30,572	/year
Annual Revenue Loss Related to Water Savings	**$1,609**	/year

Notes:

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Annual Cost	**$4,647** /year
Estimated Cost over Planning Period not including Lost Revenue	**$30,381**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$46,472**
Cost per 1000 Gallons Saved	**$20.30**

Slow the Flow Park Irrigation Audits

The Town may partner with Resource Central (ReCen) and/or Northern Water to complete irrigation audits of parks and/or open space areas in Eaton. ReCen and/or Northern Water technicians would provide recommendations to improve efficiency. This may include replacing some turf areas (high water use) with xeric plants (low water use). Currently, the non-potable wells used for park irrigation in the Town of Eaton are not metered, making it difficult for Town staff to monitor usage; however, the Town may purchase and install meters or obtain a grant.

Planning Period	2018 to 2027
Years in Planning Period	10
Program Length	10

Estimated Water Savings

Use from Unmetered Wells at Parks/Open Spaces	Estimated Future CU* (AF per year)	Estimated Future CU* gallons
Eaton Town Square	4.1	1,326,539
City Park	5.8	1,903,622
Centennial Park	5.9	1,911,116
Hawkstone Park	19.6	6,385,376
Eaton Commons Park	29.0	9,435,667
Maplewood Park	16.3	5,298,663
Railroad Park	4.0	1,304,056
Old Tower Park	0.3	94,432
TOTAL	84.9	27,659,471

Notes:

The future uses shown are estimated based on planned future parks.

Estimate that it will take about 1 year to install meters.

**CU stands for consumptive use, or the amount of water used by the irrigated crop. In this case, it was assumed each park has irrigated turf grass which is considered the irrigated crop.*

Annual Estimated Savings Rate	5.0%	
Estimated Annual Water Savings	**1,382,974**	gallons/yr
Estimated Savings over Planning Period	**13,829,736**	gallons

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	32	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$1,617.28	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$1,617.28**	/year
Materials Costs		
Unit Cost	$500.00	/item
Number of Parks	8	
Annual Materials	**$4,000.00**	/year

Notes:

Costs include time to organize the audit and implement recommendations (8 parks). Estimate that each park may take 4 hours total of the staff members time.

The $500 unit cost is for any materials that may be needed to implement recommendations at each park or to install meters . It is assumed ReCen and/or Northern Water will complete the audits as a test project or a grant will obtained by Eaton to complete the audits.

Estimated Annual Cost	**$5,617.28**	/year
Estimated Total Cost over Planning Period Including Set-up	**$5,617.28**	
Cost per 1000 Gallons Saved	**$0.41**	

Slow the Flow Residential Irrigation Audits

The Town partnered with Resource Central (ReCen) for residential irrigation audits. ReCen offers the "Slow the Flow" program which provides ourdoor sprinkler consultations to residential customers. "The service usually takes 90 minutes and involves a visual inspection, data collection, and in-depth evaluation. Our technicians will deliver a clear and actionable list of suggestions to reduce water use and runoff at each property, while keeping landscapes and lawns healthy." -ReCen

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Participant Annual Estimated Savings Rate: 5.0%

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (gal/tap)	*Estimated Annual Water Savings (gal/tap/yr)*	*Annual Program Participants (taps)*
Residential	40,890	2,045	20

Estimated Annual Water Savings	**0.041**	MG/yr in Year 1
Estimated Savings over Planning Period	**2.2**	MG

Notes:

The outdoor use estimates are based on the following approximations for each customer category: Residential = 43%.

Assumed a conservative estimate of 5% savings of projected outdoor water usage . Customers have to put Auditor's advice and suggestions into practice.

Program Participants based on other water providers' participation rates for similar programs.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	15	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$758**	/year
Third Party Costs		
Audit Cost	$114	
Number of Participants	20	/year
Annual Cost	**$2,280**	/year

Notes:

Costs include staff time for implementing (approximately 45 min. per participant). Program is largely organized by ReCen .

Third Party Costs include ReCen 's time.

Residential audits = $114/audit

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$7.03

Note:

The annual revenue loss was estimated based on current rates for the Residential customer category.

Estimated Average Annual Revenue without Water Savings	$31,611	/year
Estimated Average Annual Revenue with Water Savings	$30,030	/year
Annual Revenue Loss Related to Water Savings	**$1,581**	/year

Notes:

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Annual Cost	**$4,619** /year
Estimated Cost over Planning Period not including Lost Revenue	**$30,381**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$46,186**
Cost per 1000 Gallons Saved	**$20.54**

Giveaways: Water Audit Kits

Self-guided residential water audit kits can be designed and customized for the Town with various water saving items. Examples of these items include the following: water saving hose nozzles, water efficient shower heads, faucet aerators, dish squeegees, toilet volume reducers, leak detection tablets, and outdoor moisture meters. Instructions for conducting the audit and evaluating the results can give residential customers insight and direction on how they can save water and money. The guidance offered in the instructions could also lead the customer to take part in other conservation programs offered, including rebates, Garden in a Box, or Outdoor Water Audits.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Participant Annual Estimated Savings Rate	0.25%

	Avg. Annual Indoor Water Use Over the Planning Period (gal/tap)	***Estimated Annual Water Savings*** *(gal/tap/yr)*	***Annual Program Participants*** *(taps)*
Residential	53,131	133	95
Commercial	54,089	135	5

Estimated Annual Water Savings	**0.01**	MG/yr
Estimated Savings over Planning Period	**0.73**	MG

Notes:

Estimated Savings over Planning Period is calculated by compounding the estimated annual water savings per the total number of participants for each given year. Estimated Water Use is based on the forecasted annual indoor water use since most of the audit kit contents are related to indoor savings efforts.

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours (Website updates, etc.)	25	/year
Total:	$50.54	/hour
Annual Labor	**$1,263.50**	/year

Give Aways per Year

Give Away Kits per Year	**100**	/year
Materials Cost	**$1,747.50**	/year

Notes:

Staff Hours are estimated at 15 minutes per kit or participant. Residential water conservation kits are available at wholesalers like AM Conservation Group, Inc. (www.amconservationgroup.com) for varying costs. One example that would include several pieces is $12.45 per kit. Another kit focused more on outdoor savings would be more economical at $22.50 per kit. Cost assumes average of both kits.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$7.03
Commercial	$7.03

Notes:

The annual revenue loss was estimated based on current rates for listed Town customers.

Estimated revenue assumes that the current rates will not change over the planning period.

Estimated Average Annual Revenue without Water Savings	$359,507	/year
Estimated Average Annual Revenue with Water Savings	$358,608	/year
Annual Revenue Loss Related to Water Savings	**$899**	/year

Estimated Annual Cost	**$3,910** /year
Estimated Cost over Planning Period not including Lost Revenue	**$30,110**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$39,097.68**
Cost per 1000 Gallons Saved	**$53.47**

Xeriscape Incentives - Garden in a Box

Each year Resource Central (ReCen) offers an array of do-it-yourself Xeric garden kits, created by professional landscape designers for sun, shade, and everything in between. These plant-by-number gardens can have a significant conservation impact and are perfect for anyone who wants to beautify their yard while using less water than standard turf.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Participant Annual Estimated Savings Rate: 25% [1]

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (gal/tap)	*Estimated Annual Water Savings (gal/tap/yr)*	*Annual Program Participants (taps)*
Residential	40,890	430	5

Estimated Annual Water Savings	**0.00**	MG/yr
Estimated Savings over Planning Period	**0.1**	MG

Notes:

[1] The "Annual Estimated Saving Rate" represents a 25% savings of water for the turf area replaced with the Garden in the Box plants and not a 25% savings overall. Similar to the Demonstration Gardens themselves, this measure affects projected outdoor water usage for the listed Customer Categories.

It is estimated that approximately 43 % of residential customer use is outdoor use. Each garden is estimated to use up to 60% less water than the same area of turf, but irrigation systems need to be adjusted for benefit to be realized.

A garden typically covers 100 sq ft. Assumption was made that same area of turf will be replaced with same area of xeriscaping. Irrigation requirements = approximately two AF/acre for turf = 748 gal/garden savings. This estimate was cut in half due to other potential problems.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	1.25	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$63.18	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$63.18**	/year

Notes:

Staff cost include approximately 1/4 hour per participant. ReCen offers end consumers a discount through the water provider.

Materials Costs		
Associated Costs	$65.55	/garden
Number of Participants	5	/year
Annual Materials	**$327.75**	/year

Notes:

ReCen's price is $4,370 for 80 gardens. An assumed 20% mark-up was made for smaller quantities.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$7.03

Notes:

The annual revenue loss was estimated based on current rates for all Town customers and assumes rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$7,903	/year
Estimated Average Annual Revenue with Water Savings	$7,820	/year
Annual Revenue Loss Related to Water Savings	**$83**	/year

Estimated Annual Cost	**$474**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$3,909**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$4,740.55**	
Cost per 1000 Gallons Saved	**$40.08**	

Outdoor Irrigation Controllers and Rain Sensors - Giveaways or Rebates

Outdoor Irrigation Controllers, Rain Sensors and possibly Winds Sensors could be made available to Eaton's water users for free or for a reduced cost. This could also be adapted to serve as a rebate program; however, the Town prefers to provide giveaways. Outdoor Irrigation Controllers allow a user to program automatic irrigation schedules. Rain sensors are used to automatically shut off sprinklers during rain.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Residential Annual Estimated Savings Rate	5.00%
Sprinkler Annual Estimated Savings Rate	5.00%

	Avg. Annual Outdoor Water Use Over the Planning Period (gal/tap)	***Estimated Annual Water Savings*** *(gal/tap/yr)*	***Annual Program Participants*** *(taps)*
Residential	40,890	2,045	19
Sprinkler	91,537	4,577	1

Estimated Annual Water Savings	**0.04**	MG/yr
Estimated Savings over Planning Period	**2.39**	MG

Notes:

Estimated Savings over Planning Period is calculated by compounding the estimated annual water savings for the total number of participants for each given year. Estimated Water Use is based on the outdoor water use.

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours (Website updates, etc.)	20	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$1,010.80**	/year

Give Aways (or Rebates) per Year

Give Aways (or Rebates) per Year	**20**	/year
Cost covered by the Town	**100%**	
Materials Cost	**$820.00**	/year

Notes:

Staff Hours are estimated at 1 hour per participant (includes savings tracking). Irrigation controllers (for up to 9 stations) are available for about $250 per controller. Rain Sensors are available for approximately $30 per sensor.

It was assumed the Town would offer 19 sensors and 1 controller per year. The Town may also provide rebates to citizens for the purchase of controllers and sensors.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$ 7.03
Sprinkler	$ 6.52

Notes:

The annual revenue loss was estimated based on current rates for listed Town customers.

Estimated revenue assumes that the current rates will not change over the planning period.

Estimated Average Annual Revenue without Water Savings	$33,314	/year
Estimated Average Annual Revenue with Water Savings	$31,648	/year
Annual Revenue Loss Related to Water Savings	**$1,666**	/year

Estimated Annual Cost	**$3,497** /year
Estimated Cost over Planning Period not including Lost Revenue	**$18,308**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$34,965.07**
Cost per 1000 Gallons Saved	**$14.64**

Weekly and Time of Day Outdoor Watering Restrictions

Eaton's Municipal Code makes it unlawful to sprinkle lawns, gardens and trees except during those times and hours permitted by the Town Board by resolution. Eaton may implement mandatory or voluntary ourdoor watering restrictions through resolutions, such as limiting watering use to a certain season and/or time of day.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.20%	

Notes:

Outdoor use is estimated at a weighted average of approximately 45% for the listed categories.

A conservative estimate of 0.2% savings of projected outdoor water usage was assumed.

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Residential	95.34	190,671
Commercial	5.43	10,865
Industrial	0.83	1,654
Sprinkler	6.00	11,991

Estimated Annual Water Savings	**0.2**	MG/yr
Estimated Savings over Planning Period	**2.2**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	10	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$505.40	
Annual Labor	**$505.40**	/year

Notes:

Costs include staff time for enforcing water restrictions for existing measure.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on current weighted rates for listed customer categories

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$757,806	/year
Estimated Average Annual Revenue with Water Savings	$756,291	/year
Annual Revenue Loss Related to Water Savings	**$1,516**	/year

Estimated Annual Cost	**$2,021** /year
Estimated Cost over Planning Period not including Lost Revenue	**$5,054**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$20,210.12**
Cost per 1000 Gallons Saved	**$9.39**

Water Waste Ordinance

Eaton's Municipal Code has a waste water ordinance that makes it unlawful to waste water through the failure to make prompt repairs to faulty plumbing under a citizen's control. Sprinkling water running onto a street is evidence of water waste and unlawful.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.10%	

Notes:

Outdoor use is estimated at a weighted average of approximately 45% for the listed categories.

A conservative estimate of 0.1% savings of projected outdoor water usage was assumed.

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Residential	95.34	95,335
Commercial	5.43	5,432
Industrial	0.83	827
Sprinkler	6.00	5,996

Estimated Annual Water Savings	**0.1**	MG/yr
Estimated Savings over Planning Period	**1.1**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	10	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$505.40	
Annual Labor	**$505.40**	/year

Notes:

Costs include staff time for enforcing waste water ordinance for existing measure.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on current weighted rates for listed customer categories

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$757,806	/year
Estimated Average Annual Revenue with Water Savings	$757,048	/year
Annual Revenue Loss Related to Water Savings	**$758**	/year

Estimated Annual Cost	**$1,263** /year
Estimated Cost over Planning Period not including Lost Revenue	**$5,054**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$12,632.06**
Cost per 1000 Gallons Saved	**$11.74**

Landscape Design Ordinances and Restrictions

Eaton is interested in investigating some or all of the following landscape design ordinances: Rules and Regulations for Landscape Design/Installation, Soil Amendment Requirements, Turf Restrictions, and Irrigation Equipment Requirements.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Average Annual Estimated Savings Rate	0.70%	

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Residential	95.34	693,017
Commercial	5.43	39,490
Industrial	0.83	6,011
Sprinkler	6.00	43,584

Notes:

Outdoor use is estimated at a weighted average of approximately 45% for the listed categories.
A conservative estimate of an average 0.7% savings of projected outdoor water usage was assumed. Most of these ordinances and restrictions would only be applied to new construction.

Estimated Average Annual Water Savings	**0.8**	MG/yr
Estimated Savings over Planning Period	**7.8**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	40	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$2,021.60	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$2,021.60**	/year

Notes:

Costs include staff time for setting up rules and ordinances and for enforcing rules and restrictions for measure.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on current weighted rates for listed customer categories

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$109,747	/year
Estimated Average Annual Revenue with Water Savings	$104,260	/year
Annual Revenue Loss Related to Water Savings	**$5,487**	/year

Estimated Annual Cost	**$7,509**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$20,216**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$75,089.56**	
Cost per 1000 Gallons Saved	**$9.60**	

Town Facility Requirements

Eaton is evaluating updating its Town facility fixtures with water saving fixtures.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Percent Savings	**10%**	

Annual Estimated Water Use Per Tap without Savings

Customer Category	Avg. Annual Indoor Water Use Over the Planning Period (gal/tap)	*Estimated Annual Water Savings*
Town Facilities	54,089	See Below

Number of Town Buildings and Facilities	4	
Number of employees	27	
Toilets and urinals per building	2	
Total Toilets and Urinals	8	
Estimated flushes	81	/day
Gallons Saved per flush per day	0.4	gallons
Total gallons saved per year	11,826	gallons/yr
Faucets per building	3	
Total Faucets	12	
Estimated minutes	4	/person/day
Total number of minutes	39,420	/yr
Amount saved	0.3	gpm
Total gallons saved per year	13,403	gallons/yr
Estimated Annual Water Savings	**0.025**	MG/yr
Estimated Savings over Planning Period	**0.25**	MG

Notes:

Original savings based on 4 Town Buildings and Facilities with approximately 2 toilets and urinals per building. It is also estimated that approximately 1.5 faucets per toilet/urinal will be in each area. These would include sink areas outside of restrooms. As Eaton looks into the facilities more thoroughly, this number may change.

It is also estimated that there are approximately 27 employees total utilizing Town facilities.

Costs

Total Cost to Water Provider

Installation (One Time) Labor Costs		
Staff Hours	**22**	1st year
Hourly Cost	$50.54	/hour
Labor	$1,111.88	1st year
Yearly Labor Costs		
Staff Hours	**4**	/year
Hourly Cost	$50.54	/hour
Annual Labor	$202.16	/year
Equipment		
High Efficiency Toilet Cost	$200.00	each
Fixture/Faucets	$15	each
Total Equipment Costs	**$1,780.00**	one time fee

Notes:

Annual staff time is estimated at approximately 2 hrs. per toilet and 30 min. per fixture/faucet replacement).

This time includes water savings tracking.

Toilet equipment cost is estimated at $200 each and fixture/faucet replacement at $15 each.

One Time Cost	**$2,892**	
Estimated Annual Cost	**$491**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,913**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$4,913.48**	
Cost per 1000 Gallons Saved	**$19.48**	

Public Education Activities

Analysis of costs and benefits for educational activities are combined as shown below. Activities include Bill Stuffers, Newspaper Articles, Water Efficiency Page on Eaton's website, Education Campaign, and Social Media (e.g., Facebook, Twitter, etc.).

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Customer Category	Avg. Annual Water Use over Planning Period (MG)	Estimated Annual Savings Rate	*Estimated Annual Water Savings (gal/yr)*
Residential	219.21	2.00%	4,384,189
Commercial	12.49	0.75%	93,683
Industrial	1.90	0.75%	14,259
Sprinkler	6.00	0.75%	44,968

Estimated Annual Water Savings	4.5	MG/yr
Estimated Savings over Planning Period	**45**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	85	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$4,286.63**	/year
Materials Costs		
Unit Cost (cost of Bill Stuffers)	$0.25	/participant
Avg. Number of Participants (receiving bill stuffers) over Planning Period	2,545	/year
Annual Materials	**$636.13**	/year
Annual Costs		
CO WaterWise Membership (optional)	$500.00	/year

Notes:

Staff hours include time spent preparing newsletter, updating website, and preparing bill stuffers.

In 2018 there were an estimated 2237 active tap accounts. The average affected number of taps during the planning period is projected to be 2545.

Annual WaterWise membership cost included for a small utility. The Town could use the Live Like You Love It campaign materials.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on current rates for the Town customers and assumes rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$1,681,055	/year
Estimated Average Annual Revenue with Water Savings	$1,649,222	/year
Estimated Annual Revenue Loss Related to Water Savings	**$31,833**	/year

Estimated Annual Cost	**$37,256**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$54,228**	
Estimated Total Cost over Planning Period Including Lost Revenue	**$372,557.92**	
Cost per 1000 Gallons Saved	**$8.21**	

Children's Water Fair or Festival

Eaton would like to participate in Children's Water Fairs or Festivals and provide educational materials and information to students about water efficiency and conservation. Northern Water typically organizes an annual water fair that the Town could participate in by sending one or two grade levels of students. The Town could also set up a booth at Eaton Days.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Participant Annual Estimated Savings Rate	0.25%

Customer Category	Avg. Annual Water Use Over the Planning Period (gal/tap)	*Estimated Annual Water Savings (gal/tap/yr)*	*Annual Program Participants*
Residential	94,021	235	100

Estimated Annual Water Savings	**0.02**	MG/yr
Estimated Savings over Planning Period	**1.3**	MG

Notes:

This measure only affects residential water usage. It was asssumed 100 children participate in a water fair each year. Each year it is assumed 100 new children participate, so by year 10 of the planning period, a total of 1000 children have participated in the water fairs.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	10	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$505.40	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$505.40**	/year
Materials Costs		
Annual Materials Budget	$200	/year
Annual Materials	**$200.00**	/year
One Time Labor and Material Costs		
One Time Materials Cost	$0.00	
Third Party Costs	$0.00	
One Time Labor/Material Cost	**$0.00**	

Notes:

Staff hours include time participating in water fairs or festivals. It was assumed the Town would participate in 1 fair for 8 hours each with 2 hours of prep time for each.

Material costs may include an annual budget for educational materials.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$7.03

Notes:

The annual revenue loss was estimated based on current rates for the Town customers and assumes rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$363,422	/year
Estimated Average Annual Revenue with Water Savings	$362,514	/year
Annual Revenue Loss Related to Water Savings	**$909**	/year

Estimated Annual Cost	**$1,613.96**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$7,054.00**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$16,139.56**	
Cost per 1000 Gallons Saved	**$12.48**	

Post or Distribute ET Irrigation Scheduling

ET irrigation schedules using historical averages of weather data can be prepared by the Town prior to the irrigation season and sent out to all customer categories to reference when programming their irrigation systems. Northern Water has tools on their website that can aid with this calculation. The schedule could be printed on the bill or posted on the web at the beginning or for the duration of the irrigation season.

Planning Period	2018 to 2027
Years in Planning Period	10
Program Length	10

Estimated Water Savings

Annual Estimated Savings Rate	2.00%

Customer Category	Average Outdoor Water Use (gal/tap)	*Estimated Annual Water Savings (gal/tap)*
Residential	40,890	818
Commercial	41,628	833
Industrial	48,638	973
Sprinkler	91,537	1,831

Notes:

This measure affects projected outdoor water usage for the customer categories shown

Estimate that approximately 45% of potable use is used outdoors.

Estimated Annual Water Savings	**2,151,806**	gallons/yr
Estimated Savings over Planning Period	**21,518,056**	gallons

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	8	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$404.32	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Website updates, etc.)	$0.00	/year
Annual Labor	**$404.32**	/year

One Time Labor and Material Costs	
One Time Materials Cost	$0.00
One Time Labor Costs	$606.48
One Time Labor/Material Cost	**$606.48**

Notes:

Staff hours include time spent preparing schedules. It is assumed a schedule is sent out one time per year. One-time labor costs include 12 hours of program set-up by Town Staff and then 8 hours per year of Staff support.

Over the planning period, there are a projected average total of 2545 taps.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Weighted average of customer rates	$7.02

Notes:

The annual revenue loss was estimated based on current rates for the Town customers and assumes rates will not change significantly over the planning period.

Estimated Annual Cost	**$464.97**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,649.68**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$799,782.48**	
Cost per 1000 Gallons Saved	**$37.17**	

Xeriscape Demonstration Garden

Maintaining a xeriscape demonstration garden is an excellent way to educate the public to the water savings and beauty available from xeriscaping. The Town could partner with another organization to design and maintain a xeriscape demonstration garden within the Town. Eaton has discussed partnering with Northern Water to install a garden with native decorative grasses and other low water use plants with information placards along one of the Town's trails and at an existing detention basin.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Treated Water Savings:

Participant Annual Estimated Savings Rate	0.15%

Customer Category	**Avg. Annual Outdoor Water Use Over the Planning Period** (gal/tap)	***Estimated Annual Water Savings*** *(gal/tap/yr)*	***Annual Program Participants*** *(taps)*
Residential	40,890	61	95
Commercial	41,628	62	5

Estimated Annual Water Savings	**0.01**	MG/yr
Estimated Savings over Planning Period	**0.3**	MG

Notes:

This measure affects projected outdoor water usage for the listed Customer Categories. Other customer categories may also benefit; however, they were not included to be conservative.

It is estimated that approximately 43% of total customer use is outdoor use.

Non-Potable Irrigation Water Savings:

Location	Estimated Area of Turf Replacement to Xeriscape (acres)	Non-Potable Water Use Savings (gallons per year)
Detention Basin Garden	1.0	187,364
Eaton Commons Park Garden	1.0	187,364
TOTAL	2.0	374,729

Notes:

The Town may replace turf at Eaton Commons Park and at an existing detention basin. Both locations would replace turf with native grasses and/or other xeric plants and would include plant information placards. It's anticipated the gardens will be run through volunteer efforts and/or a partner organization. A 25% water savings for the gardens was used.

Estimated Annual Water Savings	**0.37**	MG/yr
Estimated Savings over Planning Period	**3.7**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	30	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$1,516.20	
Third Party Costs	$1,000.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$2,516.20**	/year
Materials Costs		
Annual Materials Budget	$400	/year
Annual Materials	**$400.00**	/year

Notes:

Some staff time is associated with communication and coordination of volunteer/partner organization efforts for the local Xeriscape Gardens. The garden installations, plants and planting materials are assumed to be provided through a grant. A one-time third party cost and annual maintenance costs are included for the Town.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$7.03
Commercial	$7.03

Notes:

The annual revenue loss was estimated based on current rates for Town customers and assumes rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$158,197	/year
Estimated Average Annual Revenue with Water Savings	$157,960	/year
Annual Revenue Loss Related to Water Savings	**$237**	/year

Estimated Annual Cost	**$3,153.50**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$29,162.00**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$31,534.95**	
Cost per 1000 Gallons Saved	**$7.72**	

Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication) (Not Selected)

Eaton would encourage smaller lots designated by developers by charging reduced fees for smaller lot sizes. For example, this might include a discount on tap fees for turf areas of less than 3,000 square feet or a discount for a smaller percentage of irrigated areas. Typically an irrigated area of less than 30% is considered conservative in nature. On the opposite end, an additional fee may be charged for larger irrigation areas.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.19%

Category	**Avg. Annual Water Use over Planning Period** (MG)	*Estimated Annual Water Savings gallons/yr*
Residential	219.21	416,498
Commercial	12.49	23,733

Notes:

A conservative reduction of 0.19% of projected annual water use was assumed. 0.19% was calculated by a 3.8% growth rate multiplied by 5% savings (based on participation and overall savings).

This measure mainly impacts future residential developments.

Estimated Annual Water Savings	**0.44**	MG/yr
Estimated Savings over Planning Period	**4.4**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	20	/year
Hourly Cost	$50.54	/hour
Annual Staff Costs	$1,010.80	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$1,010.80**	/year

Notes:

Estimated costs for Staff to spend approximately 20 hours per year at $50.54/hour to help coordinate within the service area.

Water Rates

Rate Category	**Rates**
Residential	$7.03
Commercial	$7.03

Notes:

The annual revenue loss was estimated based on current rates for residential and commercial customers.

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$1,628,367	/year
Estimated Average Annual Revenue with Water Savings	$1,625,273	/year
Estimated Annual Revenue Loss Related to Water Savings	**$3,094**	/year

Estimated Annual Cost	**$4,105**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$10,108**	
Revenue	**$41,047**	
Cost per 1000 Gallons Saved	**$9.32**	

Commercial Water Wise Use Regulations (Not Selected)

These may be applicable to Eaton at carwashes, restaurants, etc. Some policy examples include: providing water to restaurant customers only upon request; requiring shutoff valves for hoses used to clean vehicles; establishing water-use standards for fixtures in new commercial developments.

Planning Period	2018 to 2027	
Years in Planning Period	10	
Program Length	10	years

Estimated Water Savings

Annual Estimated Savings Rate	0.10%	

Notes:

This measure targets the commercial category. A very conservative estimate of 0.10% savings is used for calculations.

Customer Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Commercial	12.49	12,491

Estimated Annual Water Savings	**0.01**	MG/yr
Estimated Savings over Planning Period	**0.1**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	10	/year
Hourly Cost	$50.54	/hour
Annual Labor	**$505.40**	/year

Notes:

Estimated one time staff costs for Staff to spend approximately 10 hours at $50.54/hour to evaluate and enforce a new ordinance.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Commercial	$7.03

Notes:

The annual revenue loss was estimated based on a the average rate of commercial customers.

Estimated Revenue assumes that the current rates will not change significantly over the planning period.

Estimated Average Annual Revenue without Water Savings	$87,786	/year
Estimated Average Annual Revenue with Water Savings	$87,698	/year
Estimated Annual Revenue Loss Related to Water Savings	**$88**	/year

Estimated Annual Cost	**$593**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$5,054**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$5,931.86**	
Cost per 1000 Gallons Saved	**$47.49**	

APPENDIX E

Public Notice and Town of Eaton Resolution

TOWN OF EATON, COLORADO
NOTICE OF DRAFT MUNICIPAL WATER EFFICIENCY PLAN UPDATE

The Town of Eaton (Town) has completed a draft Municipal Water Efficiency Plan Update (Plan). The Plan is designed to promote the efficient consumption of all water usage by residents, businesses, and local governments; the goal of the Plan is to encourage more beneficial use of our water resources and insure a future adequate water supply.

Prior to finalization of the Plan, the Town welcomes input from its customers. The Town shall have a 60-day public review period beginning the date of this notice, May 2, 2019 through July 3, 2019. A complete copy is on file and available for public inspection in the Town Administrator's Office, 223 1st Street, Eaton, CO 80615, during regular business hours. The Town will also post the plan on its website at https://www.colorado.gov/townofeaton.

All written comments are due to Jeff Schreier, Town Administrator, prior to July 4, 2019 at:

Town of Eaton
Town Administrator, Jeff Schreier
223 1st Street
Eaton, CO 80615

/s/. Jane Winter, Town Clerk

Published May 2, 2019 in The North Weld Herald/Central Weld Voice, Eaton. CO and uploaded to www.publicnoticecolorado.com May 2, 2019

AFFIDAVIT OF PUBLICATION

STATE OF COLORADO
ss.
COUNTY OF WELD

I, Bruce J. Bormann, of said County of Weld, being duly sworn, say that I am Publisher of **THE NORTH WELD HERALD/THE CENTRAL WELD VOICE** a combined weekly newspaper having a general circulation in said County and State, published in the Town of Eaton, in said County and State; and that the notice, of which the annexed is a true copy, has been published in said weekly newspaper for **ONE** week, that the notice was published in the regular and entire issue of every number of the paper during the period and time of publication, and in the newspaper proper and not in a supplement, and that the publication of said notice:

Town of Eaton, Colorado
Notice of Draft Municipal
Water Efficiency Plan Update

Was published in said newspaper bearing the date of:
Thursday, the **2nd** day of **May, 2019**

and that the said
NORTH WELD HERALD/CENTRAL WELD VOICE
216 1st St., Suite H, Eaton, CO 80615
(970) 454-5551 northweldherald@gmail.com

has been published continuously and uninterruptedly for the period of 52 consecutive weeks, in said County and State, prior to the date of first publication of said notice, and the same is a newspaper within the meaning of an Act to regulate printing of legal notices and advertisements, approved May 18, 1931, and all prior acts so far as in force.

BRUCE J. BORMANN, PUBLISHER
Publication Cost: **$40.25**

Subscribed and sworn to before me
this **14th** day of **May, 2019.**

KYLA MICHELLE MONTOYA, NOTARY PUBLIC

KYLA MICHELLE MONTOYA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20184032387
MY COMMISSION EXPIRES AUGUST 14, 2022

TOWN OF EATON, COLORADO
RESOLUTION NO. 2019-06

A RESOLUTION ADOPTING THE TOWN OF EATON 2019 MUNICIPAL WATER EFFICIENCY PLAN

WHEREAS, the Town of Eaton, Colorado ("Town") is a municipal corporation duly organized and existing under the Constitution and laws of the State of Colorado; and

WHEREAS, C.R.S. § 37-60-126 provides that a municipality supplying and distributing more two thousand acre-fee or more of water per calendar year is required to develop, adopt, make publicly available and implement a water use efficiency plan; and

WHEREAS, on April 18, 2019, the Town Board of Trustees for the Town of Eaton was presented a draft of the Town of Eaton 2019 Municipal Water Efficiency Plan ("Plan"); and

WHEREAS, a notice announcing the availability of the Plan for public review and comment was thereafter posted on the Town's website and published in the *North Weld Herald*, and has been publicly available for a period of not less than sixty (60) days.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN BOARD OF THE TOWN OF EATON, COLORADO, THAT:

Section 1: The Town of Eaton 2019 Municipal Water Efficiency Plan, attached hereto and incorporated herein, is hereby approved and adopted.

PASSED, SIGNED, APPROVED, AND ADOPTED this 18th day of July, 2019.

TOWN OF EATON, COLORADO

ATTEST:

By: Margaret Jane Winter
Margaret Jane Winter, Town Clerk

By:
Kevin Ross, Mayor

TOWN OF EATON
INCORPORATED A.D. 1892
SEAL
COLORADO

APPENDIX F

Colorado Water Conservation Board Cover Letter, Checklist, and Approval

THE TOWN OF EATON COLORADO
Incorporated 1892

223 1st Street
EATON CO 80615
970.454.3338
Fax: 970.454.3339
www.eatonco.org

7/19/2019

Mr. Ben Wade, CWCB
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Town of Eaton Municipal Water Efficiency Plan Update

Dear Mr. Wade:

The Town of Eaton (Town) would like to submit a locally adopted Municipal Water Efficiency Plan Update for review and approval by the Colorado Water Conservation Board's (CWCB) Office of Water Conservation and Drought Planning. This letter is also intended to meet the Cover Letter Submittal Requirements for CWCB review.

Name and contact information:

Town of Eaton
Attn: Town Administrator, Jeff Schreier
223 1st Street
Eaton, CO 80615
T: (970) 454-3338
F: (970) 454-3339
Jeff@eatonco.org

List of organizations and individuals that assisted in plan development:

Clear Water Solutions, Inc.
Sira Sartori, Michelle Hatcher, and Steve Nguyen

Quantity of retail water delivery and population data summaries:

Summaries of the Town's water delivery and population data are provided in **Tables 1 and 2** below. Retail water demand (or total billed water usage) averaged 702 acre-feet (AF) in the previous six years. The Town has seen significant growth since 2012 and anticipates a 3.0% population growth into the future.

Table 1: Water Demand by Customer Category

Customer Category	2012	2013	2014	2015	2016	2017	Avg.
Residential (AF)	682	598	567	585	575	570	596
Commercial (AF)	47	40	38	39	38	36	40
Industrial (AF)	6	6	5	61	78	123	47
Sprinklers (AF)	24	20	19	19	18	17	20
Total Billed (AF)	759	664	630	704	709	746	702
Non-Revenue (AF)	50	61	99	83	97	77	78
Population	4,510	4,606	4,772	4,882	5,035	5,197	4,834
Residential (GPCD)	135	116	106	107	102	98	111
Total Billed (GPCD)	150	129	118	129	126	128	130

Table 2: Water Service Area Historical and Projected Population Estimates

Year	Population	Growth Rate
2012	4,510	1.6%
2013	4,606	2.1%
2014	4,772	3.6%
2015	4,882	2.3%
2016	5,035	3.1%
2017	5,197	3.2%
2018	5,800	11.6%
2019	5,974	3.0%
2020	6,153	3.0%
2021	6,338	3.0%
2022	6,528	3.0%
2023	6,724	3.0%
2024	6,926	3.0%
2025	7,133	3.0%
2026	7,347	3.0%
2027	7,568	3.0%

Note: the 2018 population spike is based on the Town's population estimate and represents an adjustment to the Colorado Department of Local Affairs historical data.

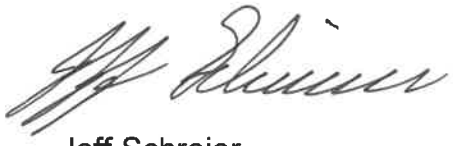
Public review and comment information:

The Town held its public review period from May 2nd, 2019 to July 3rd, 2019. Notification of the draft Plan and public review period was posted in the North Weld Herald. The notification announced the public review timeframe and stated a draft Plan would be available for the public to review at the Town Hall. The draft Plan was also posted on the Town's website. During the public review period, the Town received no comments on the Municipal Water Efficiency Plan Update.

The Town approves this Municipal Water Efficiency Plan Update and will commit the resources necessary, as they become available, for the implementation of the Plan.

Please let me know if you have any further requirements.

Sincerely,



Jeff Schreier,
Town Administrator

COLORADO WATER CONSERVATION BOARD
Conservation Plan Submittal Required Plan Elements Checklist

Name of Entity: Town of Eaton
Date Submitted: 7-23-19

Required Conservation Plan Elements	Completed?
1. Name and contact information	Yes_x___ No___ Comment: in cover letter
2. Organizations and individuals assisting with plan development	Yes___x__ No_____ Comment: in cover letter
3. Quantified annual retail water delivery?	Yes_x__ No ____ Comment: cover letter; 2017-746 af metered usage; 702 af metered usage avg. last 5 years; 2017 gpcd = residential 98; system 128; unmodified demand 977af in 2027
4. Identified population served by retail water delivery?	Yes__x____ No_____ Comment: cover letter; 2017 – 5197 residents; projections out to 2027- 7568 residents; 2030-8269
5. Public comment period completed? (60 days or local regulation)	Yes___x__ No___ Comment: May 2-July 3, 2019
6. Signature with authority to commit resources of the submitting entity?	Yes__x__ No__ Comment: in cover letter
7. All required water saving measures and programs considered?	Yes_x__ No____ Comment:
I. Fixtures and appliances – toilets, urinals, showerheads, faucets, etc.?	Yes_x_ No ___ Comment: Requiring high efficient fixtures in town facilities
II. Waterwise landscapes, drought resistant vegetation, removal of phreatophytes, efficient irrigation, etc.?	Yes_x__ No_____ Comment: Slow the Flow irrigation audits for parks and residents; garden in a box
III. Water efficient industrial and commercial processes?	Yes_x__ No_____ Comment: Commercial Slow the Flow audits
IV. Water reuse systems?	Yes__x_ No_____ Comment: N/A
V. Distribution system leak ID and repair?	Yes_x____ No_____

Required Conservation Plan Elements	Completed?
	Comment: system wide audit; leak detection done every 4 years new AMI metering, non-potable metering for subdivisions on dual systems
VI. Information, public education, audits, demos?	Yes__x___ No_____ Comment: general water education through bill stuffers, newsletters, webpages, social media; children's water festival; K-12 programs; ET irrigation scheduling resources; xeriscape demo garden; customer surveys
VII. Conservation oriented rate structure and billing system?	Yes__x___ No____ Comment: uniform rate structure with first 4Kgals included in fixed rate; planning on doing another rate study to evaluate inclining block rate structure. Flat rate for irrigation water to subdivsions but increases for bigger lots
VIII. Regulatory measures designed to encourage water conservation?	Yes_x__ No_____ Comment: water waste ordinance; weekly/time of day water restrictions; landscape ordinances: Rules and Regulations for Landscape Design/Installation, Soil Amendment Requirements, Turf Restrictions, and Irrigation Equipment Requirements. This water efficiency activity is a priority for the Town over the next one to three years. The Town's 2018 Comprehensive Plan sets goals and proposed policies to promote water conservation through water efficient landscape design.
IX. Incentives, rebates to encourage conservation implementation?	Yes_x___ No_____ Comment: water audit kit giveaways; irrigation controllers and rain sensors
8. Role of water conservation plan in overall water supply planning?	Yes __x__ No_____ Comment: pg 26 impacts to future water facilities and supply acquisitions
9. Steps to implement, monitor, review, and revise conservation plan including time period not to exceed 7 years?	Yes _x_ No _____ Comment: pg 43-46
10. Estimates of water saved through previous conservation efforts AND water saved through plan implementation?	Yes__x___ No_____ Comment: 10 year demand reduction goals: res = 12%; Comm. = 5%; Industrial = 3%; Irr. = 3% and Non-rev = 1%. Overall gpcd reduction of 10%. 128 af demand reduction to 849 af in 2027
11. Best management practices for water demand management, water efficiency, and water conservation that may be implemented through land use planning efforts	Yes___x___ No____ Comment: **Comprehensive Plan.** The Town's most recent 2018 Comprehensive Plan includes goals and policies to encourage water conservation including the use of native and drought-tolerant plant species in landscape design.

Plan Review Findings

_____x___ Approved

_ _____ Conditional Approval

_____ Disapproval with Modifications

Plan review comments:

This plan review was completed by Kevin Reidy of the Colorado Water Conservation Board. Questions about the review, comments provided, the plan review process and the statutory requirements can be directed to Kevin.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

November 27, 2019

Jeff Schreier
Town of Eaton
223 1st Street
Eaton, CO 80615

Dear Mr. Schreier:

The Colorado Water Conservation Board (CWCB) received a locally adopted Water Efficiency Plan from the Town of Eaton for review and approval. The CWCB has determined the Plan to be in accordance with §37-60-126 and the CWCB's Guidelines for the Office to Review Water Conservation Plans Submitted by Covered Entities. The Plan is hereby ***approved*** and Eaton 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 November 26, 2026***.

As Eaton 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 Kevin Reidy at 303-866-3441 ext 3252.

Sincerely,

Rebecca Mitchell

Rebecca Mitchell
CWCB Director

cc: Michelle Hatcher, Clear Water Solutions
Kirk Russell, CWCB Finance Section
Mike Brod, Colorado Water Resources & Power Development Authority