TOWN OF WELLINGTON
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June 12, 2019

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

RE: Town of Wellington Municipal Water Efficiency Plan

Dear Mr. Wade:

The Town of Wellington (Town) would like to submit a locally adopted Municipal Water Efficiency Plan for review and approval by the Colorado Water Conservation Board's 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 Wellington
Attn: Ed Cannon, Town Administrator
PO Box 127
Wellington, CO 80549
T: (970) 568-3381
cannonel@wellingtoncolorado.gov

List of organizations and individuals that assisted in plan development:

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

Quantity of retail water delivery and population for past five years:
Table 1: Water Demand by Customer Category

Year	Total Treated Water Billed to Customers (AF)	Estimated Non-Revenue Water, 10% (AF)	Estimated Total Treated Water Demand (AF)
2013	773	86	859
2014	850	94	944
2015	915	102	1017
2016	956	106	1062
2017	982	109	1091
Average	895	99	995

Table 2: Town of Wellington Current and Projected Populations

Year	Projected Town Population	Change in Population (2-yr increments)	Projected Population Growth
2018	10,609	609	6%
2020	11,555	946	9%
2022	12,456	901	8%
2024	13,313	857	7%
2026	14,127	814	6%
2028	14,902	775	5%
2030	15,639	737	5%
2032	16,341	702	4%
2034	17,008	667	4%
2036	17,642	634	4%
2038	18,245	603	3%

Public review and comment information:

The Town held its public review period from February 27, 2019, to April 28, 2019. Notification was posted in the Fort Collins Coloradoan on February 27, 2019, announcing the public review timeframe and that a draft Plan would be available for the public to review at the Town Hall Administrative Office. The draft Plan was also posted on the Town's website. During the public review period, the Town received no comments on the Water Efficiency Plan.

The Town is pleased with the Water Efficiency Plan that has been developed 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,

Ed Cannon,
Town Administrator

TOWN OF WELLINGTON

2018 MUNICIPAL WATER EFFICIENCY PLAN

COLORADO'S NORTHERN GATEWAY
WELLINGTON
COLORADO

Photo credits: Town of Wellington Facebook page.

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EXECUTIVE SUMMARY

The Town of Wellington (Town *or* Wellington) is nestled along the Front Range of Colorado's Rocky Mountains in Larimer County, conveniently located just north of the City of Fort Collins at the intersection of Interstate 25 and Highway 1. This charming town sits at 5,200 feet above sea level and encompasses 3.5 square miles within the Town limits and water service area as shown in **Figure 1** in **Section 1.0** of this report. About 11,000 residents have made Wellington their home and the Town continues to grow rapidly due to population increases along the Front Range. Wellington anticipates a population growth of up to 14,500 by the year 2027.

To help Wellington plan for future growth, the Town developed a Municipal Water Efficiency Plan (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 Wellington for funding from the Colorado Water Conservation Board (CWCB) and the Colorado Water Resources and Power Development Authority for water supply and delivery projects.

Wellington is highly committed to optimizing 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 water resources portfolio consists of two main water supply sources: an agreement with the North Poudre Irrigation Company (NPIC) for up to 2,000 acre-feet per year (AFY) and three municipal wells augmented under the Cache la Poudre Water User Association plan. The Town also uses a series of wells for non-potable irrigation of outdoor spaces. Wellington is currently working with a water rights engineering firm to explore additional water supply sources to add to its portfolio. This Plan will aid the Town in developing water efficiency activities that complement its existing comprehensive master planning activities and community goals.

In 2017, Wellington provided 1,091 acre-feet (AF) of treated water to residential and commercial customers and to the Town for irrigation purposes (this value also includes non-revenue water). The annual treated water demand for the Town is expected to increase due to population growth and new development to approximately 1,683 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 be up to 15% by the end of the planning period. The savings from this planning effort will make a considerable contribution toward the water supplies needed to serve the 2027 demand.

This report documents the 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.

Past and Current Water Efficiency Activities

Wellington has implemented several water efficiency activities, such as metering customer accounts, using a volumetric rate structure and mandating watering restrictions. The water efficiency activities that have been historically implemented are shown in **Table ES-1**.

Table ES-1: Wellington's Existing and On-going Water Efficiency Activities (2013 – 2017)

Water Efficiency Activities	Approx. Date of Implementation
Foundational Activities	
Automatic Meter Reading Installation and Operations	Ongoing: 2013 and before.
Leak Detection and Repair Program	Most recent leak detection: 2013.
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	Most recent Comprehensive Master Plan Update: 2014.
General Monitoring and Verification Activities and General Water Rates and Billing	Ongoing: 2013 and before.
Ordinances and Regulations	
Weekly and Time of Day Outdoor Watering Restrictions	Restrictions initiated in 2003. No mandatory restrictions 2013 – 2017.

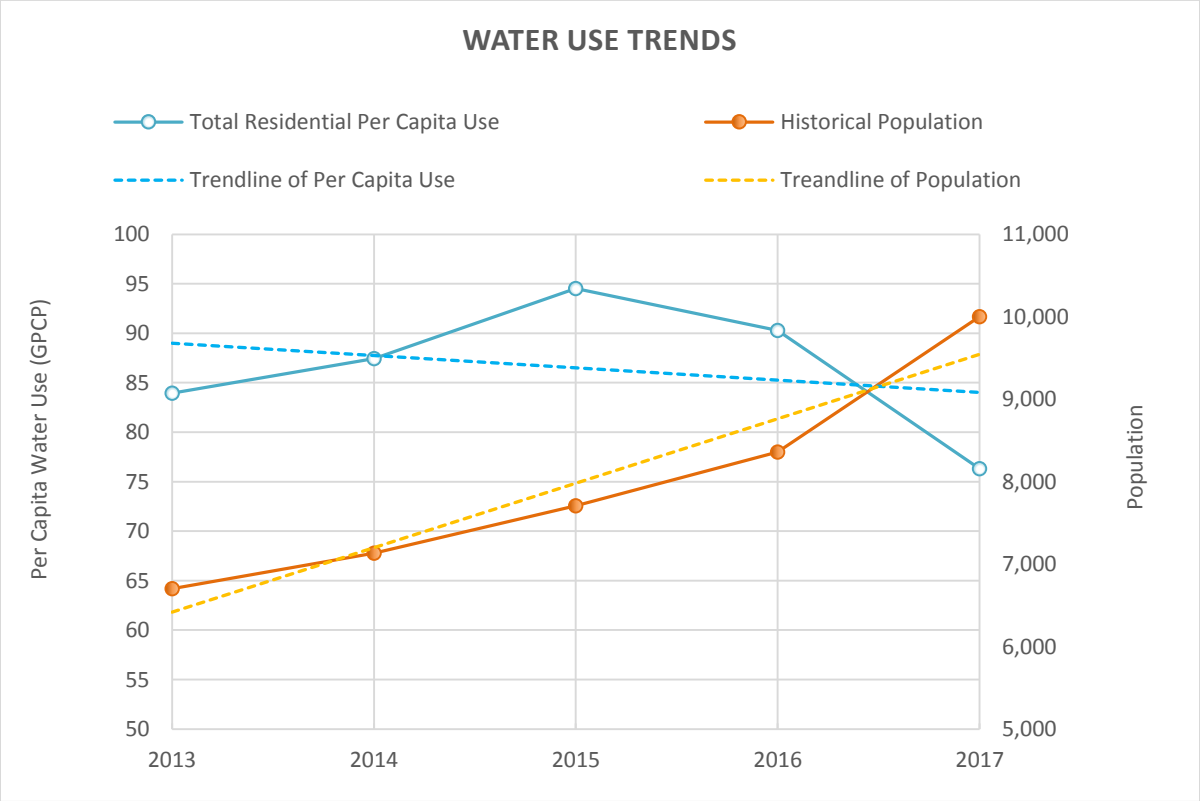
The water savings from these water efficiency activities are difficult to quantify and often cannot be estimated with reasonable accuracy. Specifically, the activities that are highly dependent on human behavior (e.g., public education programs) are challenging to estimate. Data specific to the Town's 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 per capita water usage and observe the trends over time.

Based on Wellington's data for the previous five years, there is no clear trend in per capita water use to estimate the water savings from the Town's existing water efficiency activities. Based on estimates in this Plan's cost-benefit analysis, it is projected the Town has saved approximately 27 AFY from its existing activities.

It should be noted that five years is a short period of time to evaluate observed water savings, and there is no baseline water use data before these activities were implemented for comparison. Savings from some activities, such as General Monitoring

and Verification Activities, is already reflected in the data from 2013 through 2017 as this program began prior to 2013. In general, the Town's per capita water usage is lower than many other towns along the Front Range of Colorado. As the Town continues to implement water efficiency activities and collect and monitor water use data, it will be easier to understand the water use trends over time. **Figure ES-1** shows the per capita water use data and population over the last five years.

Figure ES-1: Per Capita Water Usage Compared to Population



The population of Wellington has increased dramatically over the past five years. The variability in the per capita water usage may be linked to the yearly fluctuations in temperature and precipitation. For example, Town staff indicated the water use in 2017 decreased due to a wet spring and summer that reduced the outdoor irrigation demand. Although there is no clear trend in the per capita water usage, the total water use by the Town has experienced a 27% increase from 2013 to 2017 and the population has increased by 49% during the same period. Reducing the residential water use is a high priority for Wellington as it's the largest use in Town, and the population is projected to increase by 5% to 9% per year over the next ten years.

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 Wellington. The following preliminary goals were established:

- The targeted water savings goal for this Plan will be to lower the treated water demand by 5% over five years, or a total of up to 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%
    - Irrigation: 3%
    - Non-revenue: 1%
- To develop a water efficiency program that can be implemented within Town staffing constraints and with Town Board approval.
- To implement water efficiency activities that are compatible with the community and the Town Board representatives.
- 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.

Wellington 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 *Municipal Water Efficiency Plan Guidance Document* (*Guidance Document*).

The initial screening of the water efficiency activities with Town Staff resulted in selecting 33 candidate activities for further evaluation. Eliminated activities 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: Applicability to the Town of Wellington, moderate to high potential reduction of water use, financial implications, Staff availability, Town Board, Staff and community support and acceptance, Partnership opportunities, and Overlapping criteria. The 29 activities selected for implementation were combined into a total of 23 activities, as follows:

- System-wide water audits
- Advanced Meter Reading Installation and Operations
- Water Rate Study – Water Efficient Rate Structures with Regular Updates
- Tap Fees with Water Efficiency Incentives (Lot-based water dedication)
- Leak Detection and Repair Program
- Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans
- Drought Management Plan
- Non-Potable Park Well Meters

- General Monitoring and Verification Activities and General Water Rates and Billing
- Slow the Flow Residential Irrigation Audits
- Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)
- Giveaways: Water Audit Kits
- Xeriscape Incentives – Garden in a Box
- Weekly and Time-of-Day Outdoor Watering Restrictions
- Water Waste Ordinance
- Landscape Design Ordinances and Restrictions
- Commercial Water Wise Use Regulations
- Public Education Activities
- Children's Water Fair or Festival
- K-12 Teacher and Classroom Education Programs
- Post or Distribute ET Irrigation Scheduling
- Xeriscape Demonstration Garden
- Customer Surveys

Table ES-2 compares the anticipated water savings from the selected activities with the original goals and then adjusts the water savings goals for this Plan. Over the ten-year planning period, the selected activities could potentially provide an overall water savings of 2,253 AF if all activities were implemented for the full ten years. The adjusted goals reflect what is believed to be obtainable by the Town's Staff. After the goals were adjusted to reflect the expected water savings, the estimated water use reduction is 15%. Therefore, Wellington will target an overall reduction from its forecasted water use by 15% by the end of planning period from implementing 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	11,782	12%	1,414	2,001	17%
Commercial	1,159	5%	58	118	10%
Irrigation	286	3%	9	5	2%
Non-Revenue Water*	1,470	1%	15	129	9%
Total Water Production:	14,697				
Total Demand Reduction:			1,495	2,253	
Total Percent Reduction:			*10%*		*15%*

Implementation and Monitoring Plan

The implementation plan defines the process necessary to carry out the selected water efficiency activities. Monitoring various types of data is beneficial in tracking the water savings generated from implementing a water efficiency plan. Wellington monitors total treated water from the NPIC on an annual basis and the total billed water on a monthly basis.

The demand data which will be collected during the monitoring period of the Plan is presented in **Table ES-3**. 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 and Finance, will have roles in implementing some of the selected activities in this Plan. For some activities, the Town may partner with other organizations.

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			
Well water produced (Wilson Wells and others)					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 Wellington (Town or Wellington) is nestled along the Front Range of Colorado's Rocky Mountains in Larimer County, conveniently located just north of the City of Fort Collins at the intersection of Interstate 25 and Highway 1. This charming town sits at 5,200 feet above sea level and encompasses 3.5 square miles within the town limits and water service area. About 11,000 residents have made Wellington their home, and the Town continues to grow rapidly due to population increases along the Front Range. Many of its residents are attracted to the small town atmosphere and community spirit.

The Town has rich historical roots in Northern Colorado and began developing agriculture and natural resources, including oil and coal, as far back as the 1800s. The Town was founded in 1902 and incorporated in 1905; Wellington celebrated its Centennial in 2005 and still continues to provide a strong sense of community. The Town was named after an employee of the Colorado and Southern Railroad, C.L. Wellington. It was also a popular travelers' haven where wagon trains would take a break when making the long journey from Colorado to Wyoming and vice versa.

In the 1990s, the Town's population was roughly 500 people and doubled to 1,000 people in the early 2,000s. The Town has seen rapid population growth since the 2000s and continues to welcome new residents each year. As the Town continues to grow, the staff is dedicated to ensuring a high quality of life for its residents, neighbors and local businesses.

Wellington is highly committed to optimizing its water supplies and system through practical water conservation activities. The benefits of water conservation 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 Wellington in the process of water efficiency planning and implementation.

In this Plan, the Town will perform the five steps of municipal water efficiency planning as outlined in the *Municipal Water Efficiency Plan 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 proactive conservation efforts to date and will continue this commitment into the

future. Historically, the Town implemented mandatory and voluntary watering restrictions after the 2002 drought that limited watering seasonally and daily, and provided recommended voluntary practices to reduce water use. The Town is interested in promoting and implementing additional water conservation practices. The planning horizon for this Plan is ten years from 2018 through 2027, with a recommended update in seven years in 2024.

The Town's water resources portfolio consists of two main water supply sources: an agreement with the North Poudre Irrigation Company (NPIC) for up to 2,000 acre-feet per year (AFY) and three municipal wells augmented under the Cache la Poudre Water User Association plan. The Town also uses a series of wells for non-potable irrigation of outdoor spaces. Wellington is currently working with a water rights engineering firm to explore additional water supply sources to add to its portfolio. This Plan will aid the Town in developing water conservation activities that complement its existing comprehensive master planning activities and community goals.

In the development of this Plan, 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 *2013 Annual Water Quality Report*, *2014 Comprehensive Master Plan Update*, *2015 Parks and Trails Master Plan*, *2017 Water Treatment Plant Master Plan*, contract documents and water rights information were used for comparisons and other details. Wellington'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 are 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 Wellington is located approximately 15 miles northeast of Fort Collins, 70 miles north of Downtown Denver and 30 miles south of the Wyoming border in Larimer County. Wellington sits nearly one mile above sea level at an elevation at 5,200 feet. The Town is intersected by Interstate 25, making it easily accessible to major cities and outdoor recreation along the Front Range of Colorado.

Wellington is located within the Cache la Poudre River Basin, which is tributary to the South Platte River. The South Platte River Basin is considered over-appropriated meaning the natural streamflow is not sufficient to meet all the needs of water rights holders in the basin. The Town recognizes the value and need for water conservation as a part of its overall water plan and is dedicated to growing its community in a sustainable way.

The Town's water supply currently serves a rapidly growing community of approximately 11,000 residents. The approximately 3.5 square mile water service boundary encompasses the same area as the Town limits and serves residents, commercial businesses, industries and agricultural uses. The Town also has a bulk water station for industrial users, such as oil and gas companies, to purchase and haul water outside of Town limits. The Town recently hired a Town Planner to help with land use development as the Town continues to grow and serve new residents and businesses. The Town Planner will also assist in identifying impacts of commercial and industrial development to the water usage of the Town. Currently, there are only 34 residential units in Wellington that are not served by the Town's water supply. **Figure 1** shows the Town limits which is also the water service area boundary.

Water Supply

The Town is supplied by two main water sources: 1) an agreement with the North Poudre Irrigation Company (NPIC) for raw water from Reservoir No. 3, and 2) three municipal wells. In total, Wellington's treated water supply is 2,375 AFY and the Town's 2017 water demand for all uses was 1,091 AFY. Based on the Town's Water Treatment Master Plan, this water supply is sufficient to allow the Town to grow to approximately 15,000 residents, provided new developments provide water for their outdoor uses. **Table 1** is a summary of the Town's water supply.

Figure 1: Town of Wellington and its Water Service Area

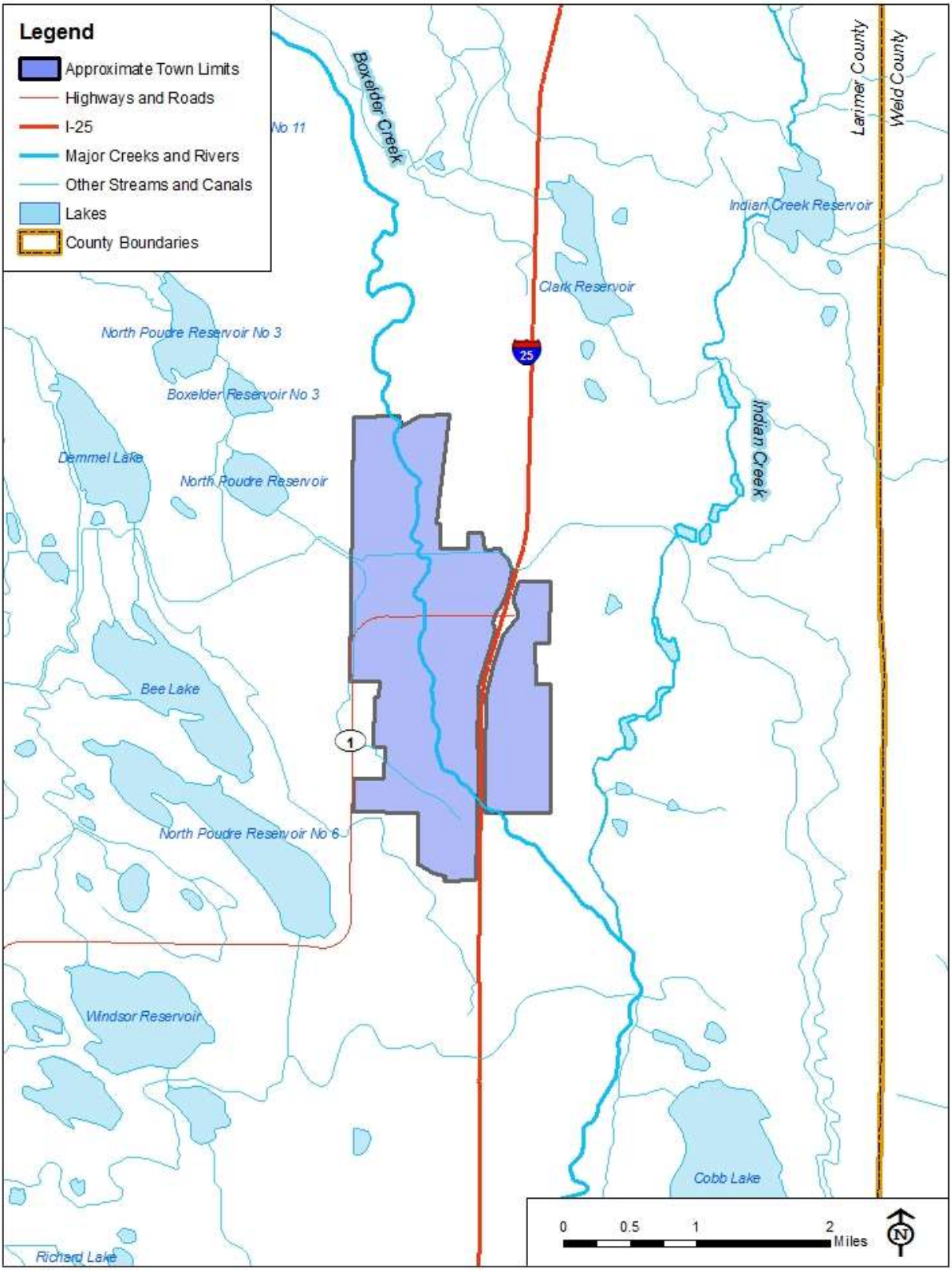


Table 1: Summary of Town's Water Supply

Water Source	Yield (AFY)	Notes
Potable Sources		
Contract North Poudre Irrigation Company (NPIC)	2,000	The Town has an agreement for up to 2,000 AFY. A total of 275 AFY is from the Town's 53 shares of stock transferred to NPIC in the agreement; an additional 1,725 AFY is at an additional cost.
Municipal Wells	375	The Municipal Wells are covered under the Cache la Poudre Water User Association's plan for augmentation in Case No. W-7921.

NPIC Agreement

In 1983, the Town signed an agreement with the NPIC to transfer its existing 53 shares of NPIC water stock to the NPIC in exchange for 275 AF[1] of annual water supplies from Reservoir No. 3. The reservoir is located northwest of the Town. The NPIC calculated a value of 5.25 AF per share for the Town and rounded the volume to 275 AF. The Town is required to continue paying the annual share assessments, administrative fees and delivery fees (where applicable) as part of the agreement. The NPIC also provided the use of an additional 1,725 AFY for an additional cost. In total, the Town is able to use 2,000 AFY of raw water from Reservoir No. 3, which is owned and operated by NPIC. Reservoir No. 3 is sourced from the Cache la Poudre River Basin.

Municipal Wells

Wellington is a participant in the Cache la Poudre Water Users Association's plan for augmentation, decreed in Case No. W-792. The Town is able to pump 375 AFY at a total rate of up to 2.56 cubic feet per second (cfs) for municipal purposes from three wells located in Section 33, Township 9 North, Range 68 of the 6th P.M. The Town's wells were originally decreed in Case No. W-733.

Key Existing Facilities

The Town has two water treatment plants (WTPs), three municipal wells, two treated water storage tanks, and a water distribution system. One WTP is located near the NPIC's Reservoir No. 3 and treats raw water to serve the town per the Town's NPIC agreement. The design capacity of this WTP is three million gallons per day (MGD), although the facility realistically produces approximately 1.6 MGD. The majority of the water is treated using the conventional process of flocculation, sedimentation, gravity media filtration and disinfection and up to 0.5 MGD can be treated through a microfiltration package the Town added in 2008. The microfiltration package produces closer to 0.3 MGD. In fall 2018, the Town will begin a WTP upgrade to increase the production with a four MGD plant for a total capacity of up to seven MGD. After treatment, water is delivered to storage tanks (one two-million gallon tank and one one-

[1] One acre-foot of water is the volumetric amount to cover one acre of land with one foot of water, or 325,851 gallons.

million gallon tank) equipped with meters and delivered via gravity to the Town through either a 16-inch or 18-inch water line for distribution to customers. Because of the location, the storage tanks are only used to store NPIC water and do not store any of the municipal well water. The municipal wells are located in Town and go directly to distribution after treatment at the second WTP. The second WTP treats 0.5 MGD using a nano-filtration treatment process. According to Town Staff, they use some wastewater treated effluent for process equipment wash-down and other such uses.

The Town has a wastewater treatment plant (WWTP) located adjacent to Boxelder Creek. The WWTP capacity is 0.45 MGD and is scheduled to expand to 1.2 MGD in the next few years. The Town's water system consists of approximately 50.2 miles of pipelines ranging in diameter from three to 36 inches with the majority of pipes at eight inches. Most of the system is comprised of PVC pipe. The breakdown of pipe diameters and mileage is shown in **Table 2.**

Table 2: Miles of Wellington Water System Pipeline

Size (inches)	Length (feet)	Length (miles)
3	108	0.0
4	2,806	0.5
6	40,951	7.8
8	113,301	21.5
10	4,970	0.9
12	39,976	7.6
14	2,001	0.4
15	2,603	0.5
16	38,346	7.3
18	19,178	3.6
20	369	0.1
36	31	0.0
no data	*595*	*0.1*

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 Supplies

Wellington's main water source is a contract with the NPIC for up to 2,000 AF for potable uses. A flat volume of 275 AFY is provided to Wellington each year for its transfer of 53 shares of stock to the NPIC; this volume is not subject to change even when annual share allocations fluctuate from year to year. The remaining water up to 2,000 AF is at a per-AF cost to Wellington.

The NPIC is a mutual ditch company delivering water 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 the company is currently at approximately 75% municipal 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 Colorado-Big Thompson Project (C-BT)[2] units. Each NPIC share includes a native agricultural portion and a C-BT portion. The Livermore diversion is used to divert the NPIC's North Fork water rights into the system, and the Monroe Canal is used to divert its Cache la Poudre water rights (including C-BT water) into the system. The Town's agreement with the NPIC is generally a stable and adequate water supply for the Town. Water is stored in the NPIC's Reservoir No. 3, treated at the Town's WTP and delivered via gravity to the Town. The NPIC's water supply is dependent on streamflow conditions in the Cache la Poudre River Basin and the C-BT quota.

C-BT facilities divert water from the western slope of Colorado to the Front Range to supplement the region's native water supplies. It is the largest trans-mountain water diversion project in Colorado. It was constructed by the Bureau of Reclamation between 1938 and 1957 and is maintained by the Northern Colorado Water Conservancy District (Northern Water). The Project imports an average of 213,000 AF of water each year to many public and private water users along the northern Front Range and northeastern Colorado for agricultural, municipal and industrial uses.

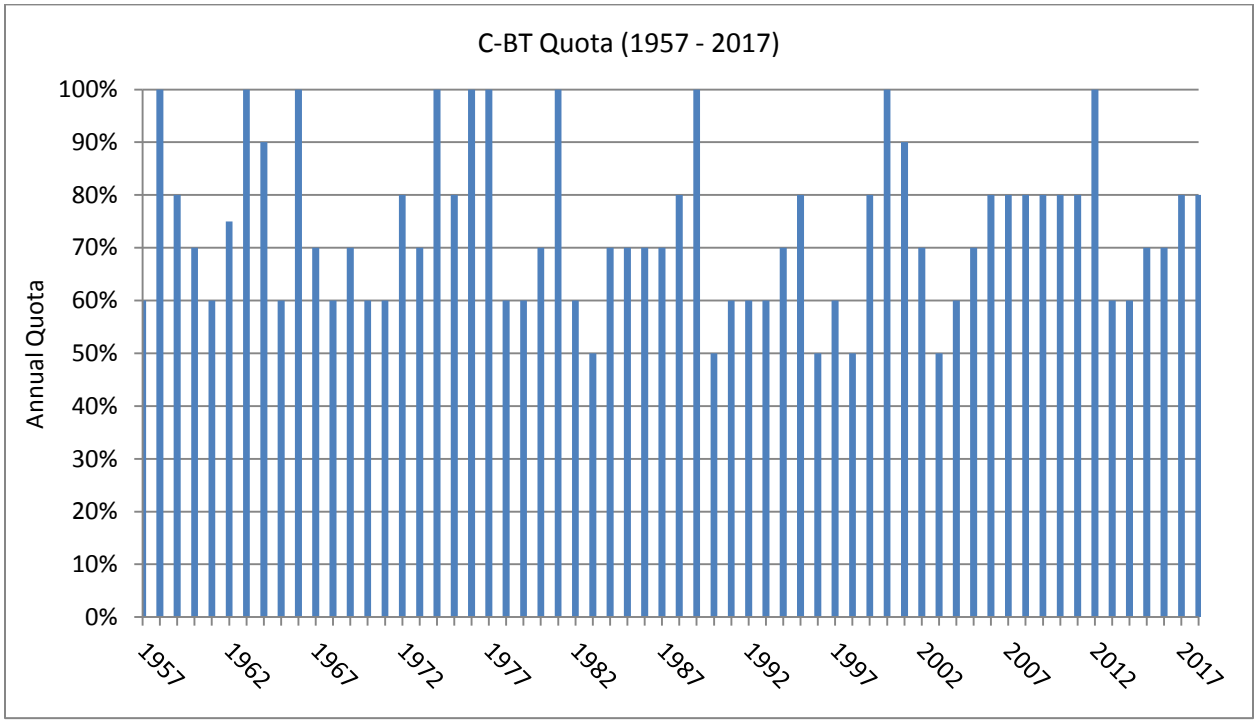
The yield of C-BT units is established each year by the Northern Water Board through what is known as the quota setting process. The basis for setting the quota is to

[2] The C-BT project delivers water from melting snow in the upper Colorado River Basin west of the Continental Divide and transports it to the East Slope of Colorado.

attempt to make every year look like an average year. 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. 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 water is delivered equally among the 10,000 shares within the NPIC system for agricultural, municipal, and industrial use.

Historically, the median yield for C-BT units is 0.7 AF per unit and the commonly used average quota is 70%. The yield changes from year to year but has never been less than 0.5 AF per unit (50% quota) or more than 1.0 AF per unit (100% quota). A 50% quota is what most water provider's use as the firm yield for C-BT units. The historical annual quota established by the Northern Water Board is shown on the following **Figure 2**.

Figure 2: Historical C-BT Quotas



1.3 Supply-Side Limitations and Future Needs

The Town is developing this Plan because conservation activities will aid in supporting water supply reliability in the future. *Worksheet A* from the *Guidance Document* is provided in **Appendix B** and describes water supply limitations and future needs for Wellington. The Town is actively addressing these limitations and challenges through evaluation of conservation activities in this Plan, new water supplies and upgrades to its

WTPs and WWTP to increase capacities. Water conservation will help the Town reduce additional water costs to use water under the NPIC agreement and subsequent treatment and distribution costs long-term. It may also reduce the need for future capacity upgrades to the Town's planned WTPs and WWTP enhancements.

Water Supply Limitations

The NPIC's 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 the NPIC and other C-BT Allottees. There is a tremendous 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. Wellington 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.

Town System Limitations

Under the NPIC agreement, the Town's water is stored in the NPIC's Reservoir No. 3. Major construction requiring draining of Reservoir No. 3, failure of Reservoir No. 3 or contamination (or contamination exceeding what can be treated at the WTP) would impact Wellington's main water source. The NPIC water is currently the only water source that can be used to meet all the Town's water demands and is available for use in all areas of the Town's limits. This poses water supply issues if an emergency situation occurred at Reservoir No. 3.

Due to the location of the municipal wells in the Town and the increasing population demand, the wells are insufficient to serve the entire community in an emergency situation. Contamination or failure of the NPIC-related facilities, such as Reservoir No. 3 or a power outage at the Town's WTP adjacent to Reservoir No. 3, would remove a large portion of the Town's current and future water supply.

Future Water Supply

The Town is also in the process of working with the NPIC and its water engineers for purchase of additional water rights to ensure the adequacy of water for the Town's residents in the future. The Town is also exploring involvement with the Northern Integrated Supply Project (NISP) to assist with long-term water storage. 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 an exchange 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 permit decision and 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 2025. Northern Water encourages the NISP participants to have active Municipal Water Efficiency Plans (MWEPs) filed with the CWCB. In addition, an MWEP will help the Town reduce long-term per capita water use as the population increases. The Town intends to continue pursuing new water right acquisition options.

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

Wellington's water service area is generally the same as the Town limits. Approximately 34 residential lots in the Pheasant Run Ridge and Fox Chase Estates are not served by the Town and receive water from the Northern Colorado Water Association. The only water use outside of the Town limits is a bulk metering station where water is purchased and hauled off-site for industrial projects such as oil and gas development. Wellington is a mixture of residential, commercial, light industrial and agricultural land uses. Some of the common industries include construction, manufacturing, retail and services.

The Town Staff estimate the 2018 population to be approximately 10,609 residents. The Town anticipates an increase of approximately 200 new residential units per year over the next five years and has seen an average annual growth rate of approximately 9% in the past five years. As the population started to grow in 2013, the community demographics shifted primarily to families. The vast majority of housing in Town is single family homes, although there are some multi-family homes as well. The median age of Wellington residents is 31 years old.

Some subdivisions have wells for outdoor irrigation use but all the residents in Town use the Town's treated water system for potable water supplies for indoor use. The historical population for the Town limits and water service area for the past five years from 2013 through 2017 is provided in **Table 3**.

Table 3: Town and Water Service Population (2013 – 2017)

Year	Total Town Population	Change in Population	Population Growth
2013	6,704	201	3%
2014	7,134	430	6%
2015	7,709	575	8%
2016	8,360	651	8%
2017	10,000	1,640	20%

Billing System and Water Rates

Wellington's water billing system splits treated water usage into three customer categories: residential, commercial and irrigation. Wellington meters its non-

potable water use for the Town and School District; however, it does not currently meter other non-potable irrigation water use. Residential and commercial water users are equipped with individual meters, and Wellington's water rates are composed of a service line fee and volumetric billing rates by monthly water usage, as shown in **Table 4**. Treated water used for irrigation purposes is for greenbelt areas, tree lawns on streets and portions of Wellington's park areas.

Table 4: Current Water Rates

Water Use Item	Fee
Service Line Fee	$18.86
First 15,000 Gallons	$3.65 per 1,000 Gallons
Over 15, 000 Gallons	$3.93 per 1,000 Gallons
Over 30,000 Gallons	$4.94 per 1,000 Gallons

Note: current fees at the time of research.

The Town is interested in evaluating its water rates as part of the water efficiency activities proposed in this Plan. Conservation-minded water pricing is one of the most effective methods to reduce water use in homes, and is particularly applicable to areas with high population growth.

2.2 Historical Water Demands

Treated Water Use Data

Customer water use data is compiled from the Town's billing system reports and organized by Town staff. The Town staff summarized the annual water use by customer category and summarized the total billed monthly water use. To determine the monthly water use by customer category, the percentage of annual water use by customer category was applied to the total monthly billed water usage.

The difference between the total treated water at the WTPs and the billed water 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). Non-revenue water also consists of apparent and real losses. Apparent losses are typically errors in data or unauthorized water use. Real losses are undetected leaks in the distribution system that is lost before reaching customers. According to Town Staff, the Town's treated water supply is metered at the inlet and outlets of both WTPs; however, the Town was not able to access the data during the development of this Plan.

Demand Data Limitations

Some data was not easily accessible or was unavailable during the development of this Plan, such as the monthly and annual treated water measured at the WTPs. Since data

from the WTPs was not available during the development of this Plan, the non-revenue water was assumed to be 10%, a value which is considered good by industry standards.

The monthly water use by customer category was also not easily accessible by Town Staff; therefore, the monthly breakdown of water use by category was estimated. The Town of Wellington customers are billed based on their actual usage per month and the customer category and/or meter tap size is not tracked. According to Town Staff, typically the tap sizes do correlate with the customer category, but when it comes to billing, it would not be an accurate billing depiction of using a category and/or tap size for reporting purposes. This MWEP will help the Town identify data measurement, collection and monitoring needs.

Non-potable irrigation use is not currently metered in the Town except for the School District and a portion of the Town's use. The Town may install more non-potable meters as a water efficiency activity outlined in this Plan.

Many homes in the Town are equipped with meters that are 20 years old or more. Wellington is currently working to replace meters within its system and approximately one-third of the system is on new meters. Beginning in 2015, the Town began installing radios to the new meters as a time- and labor-saving tool. The Town staff estimate a total of five years to finish replacing all the individual meters in the system. The updated meter system will provide better availability of immediate water use data and leak detection for customers and staff.

Total Annual Treated and Billed Water

The total billed water data for residential, commercial and irrigation is an average of 895 AFY from 2013 through 2017. Overall, the demand in retail delivery has generally increased over the past five years due to the population growth in the Town.

Assuming the Town's non-revenue water is an average of 10% per year, the estimated total treated water demand for Wellington is estimated in **Table 5**. The estimated annual treated demand for customers includes both the NPIC water supply and municipal wells water supply. The total average historical demand, including estimated non-revenue water, is 995 AFY.

Table 5: Treated Water Delivery Summary (2013 – 2017)

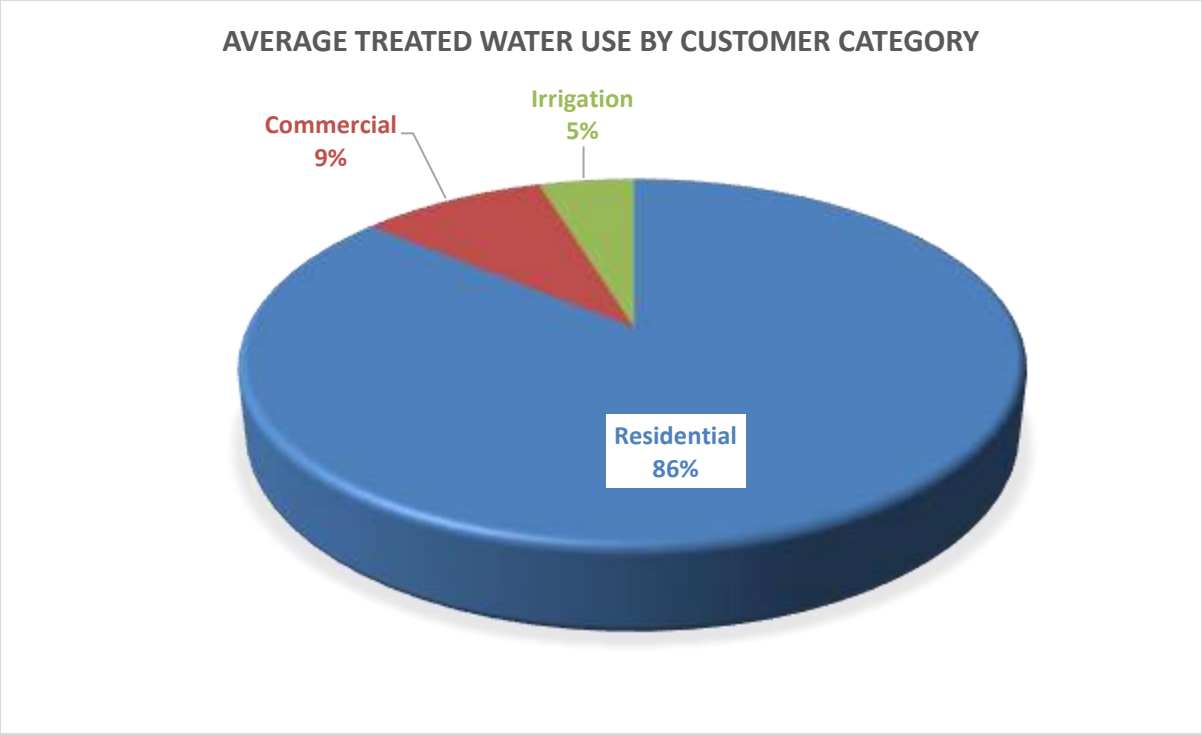
Year	Total Treated Water Billed to Customers (AF)	Estimated Non-Revenue Water, 10% (AF)	Estimated Total Treated Water Demand (AF)
2013	773	86	859
2014	850	94	944
2015	915	102	1017
2016	956	106	1062
2017	982	109	1091
Average	895	99	995

Annual and Monthly Treated Water Use by Customer Category

Annual Treated Water by Customer Category

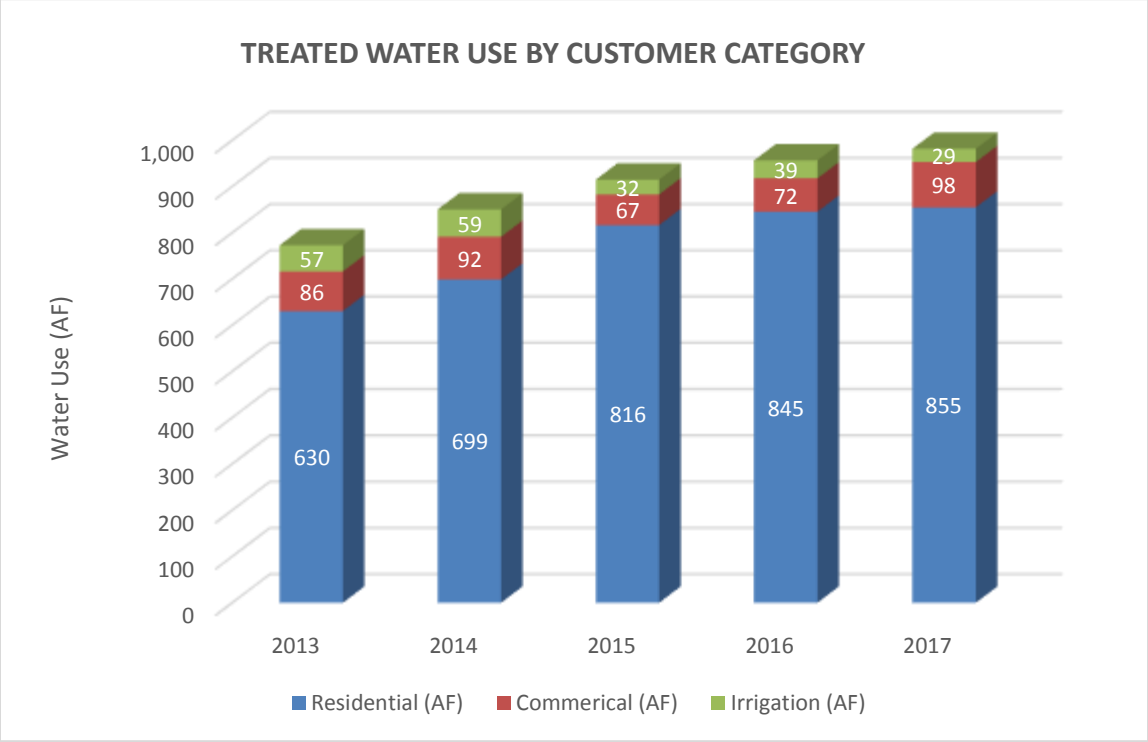
Customer categories include residential, commercial and irrigation for treated water use. The largest treated water use in Wellington is residential use, making up approximately 86% of total treated water use within Town limits. This is helpful to consider when selecting water efficiency activities to target certain categories. Residential water use includes both indoor and outdoor use by residents. **Figure 3** is a breakdown of the water use per customer category.

Figure 3: Percentage of Water Use by Customer Categories (2013 – 2017)



From 2013 through 2017, residential water use in the Town of Wellington averaged 769 AFY. Commercial and irrigation water use averaged 83 AFY and 43 AFY, respectively. Wellington is largely a residential community that experienced a population boom in the past five years, which led to an increase in residential water use of over 200 AFY from 2013 to 2017. Most commercial developments in Town are located in the downtown area along Cleveland Avenue and near Interstate 25 to accommodate citizens and travelers along the highway corridor. Some industrial development has occurred along the railroad lines in Town. The Town uses treated water for irrigation of greenbelts/tree lawns on the streets and in some parks to enhance the beauty of the community. The total annual treated water use by customer categories is provided in **Figure 4**.

Figure 4: Average Annual Treated Water Use by Customer Categories (2013- 2017)



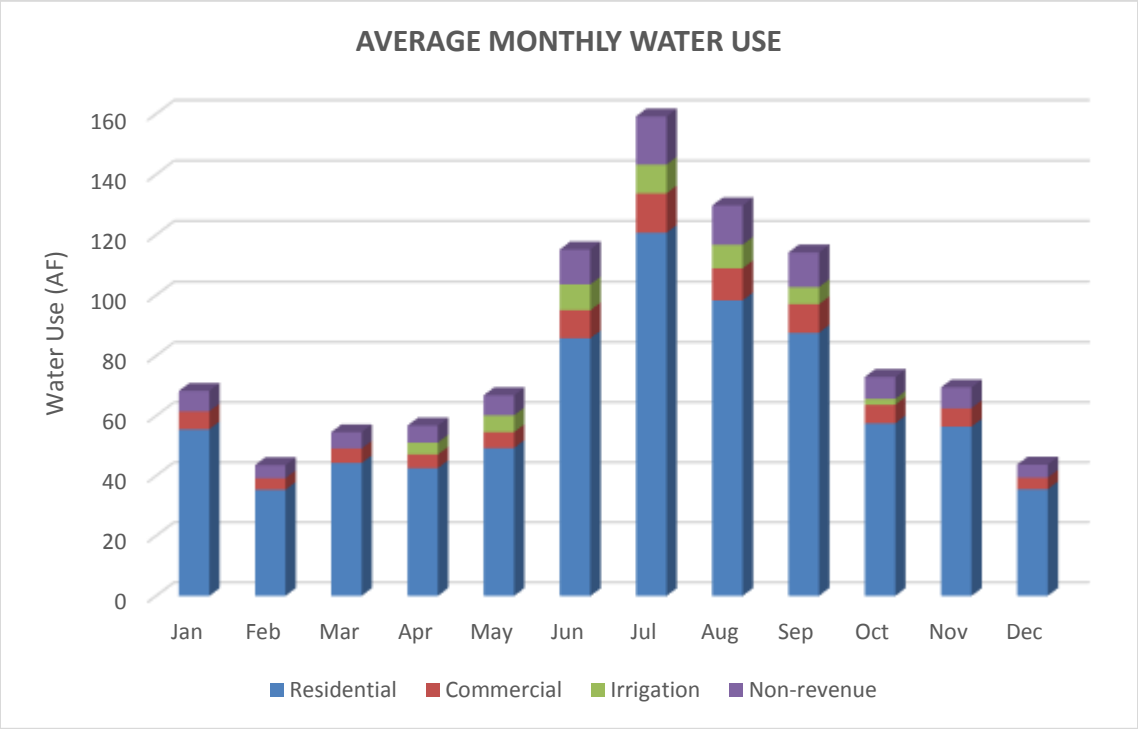
Monthly Treated Water by Customer Category

The total monthly demand ranges from 44 AF in December and February to 159 AF in July, which includes water demand by customers plus non-revenue water. Water use in the summer months is significantly higher than in the winter months due to outdoor landscape irrigation on residential lots. **Table 6** and **Figure 5** shows the monthly distribution of treated water by customer category.

Table 6: Monthly Treated Water by Customer Category (2013 – 2017) in AF

Month	Residential	Commercial	Irrigation	Non-revenue
Jan	56	6	0	7
Feb	35	4	0	4
Mar	44	5	0	5
Apr	43	5	4	6
May	49	5	6	7
Jun	86	9	9	12
Jul	121	13	10	16
Aug	98	11	8	13
Sep	88	9	6	11
Oct	57	6	2	7
Nov	56	6	0	7
Dec	36	4	0	4
Total	769	83	43	99

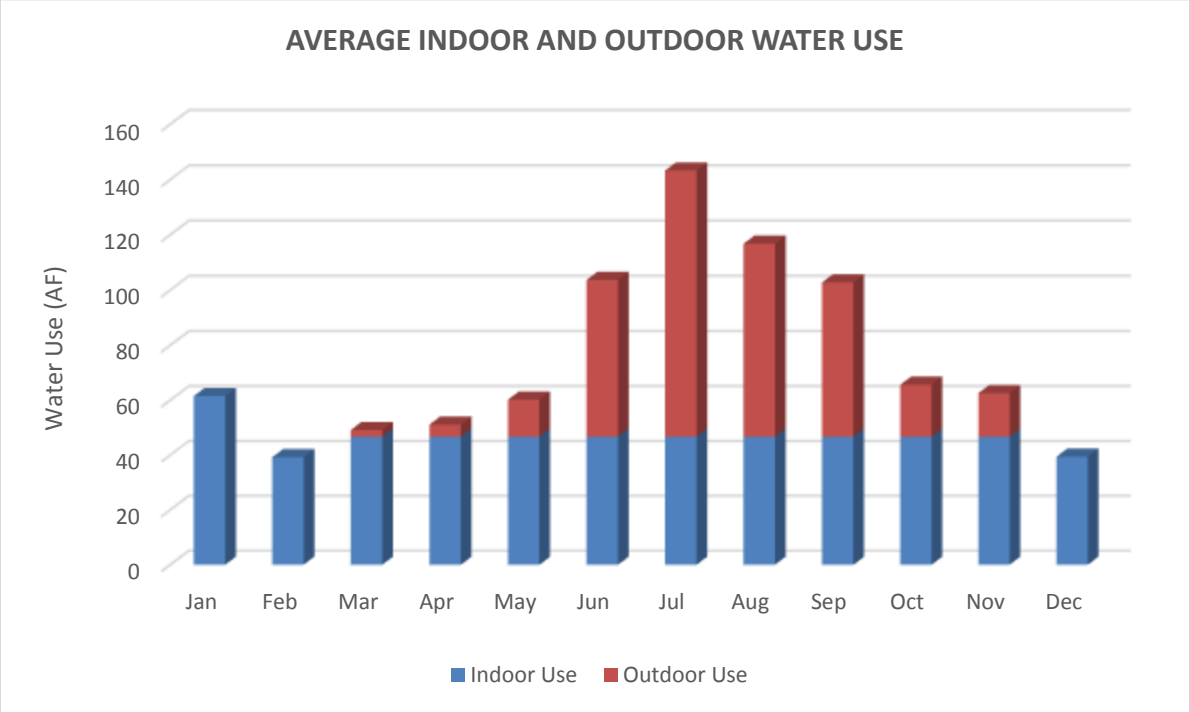
Figure 5: Average Monthly Treated Water Use by Customer Categories (2013-2017)



Treated Water Indoor and Outdoor Demands

In Colorado, a significant portion of water use occurs outdoors for irrigation in the spring, summer and fall. To determine Wellington'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). From December through February, customers use water for indoor purposes only so the average water use is considered the baseline indoor use. Generally, water use greater than this indoor baseline is considered outdoor irrigation use. Approximately 37% of the total treated water use is estimated as outdoor water use, as shown in **Figure 6**. Note that many properties in the Town use non-potable water for irrigation instead of treated water.

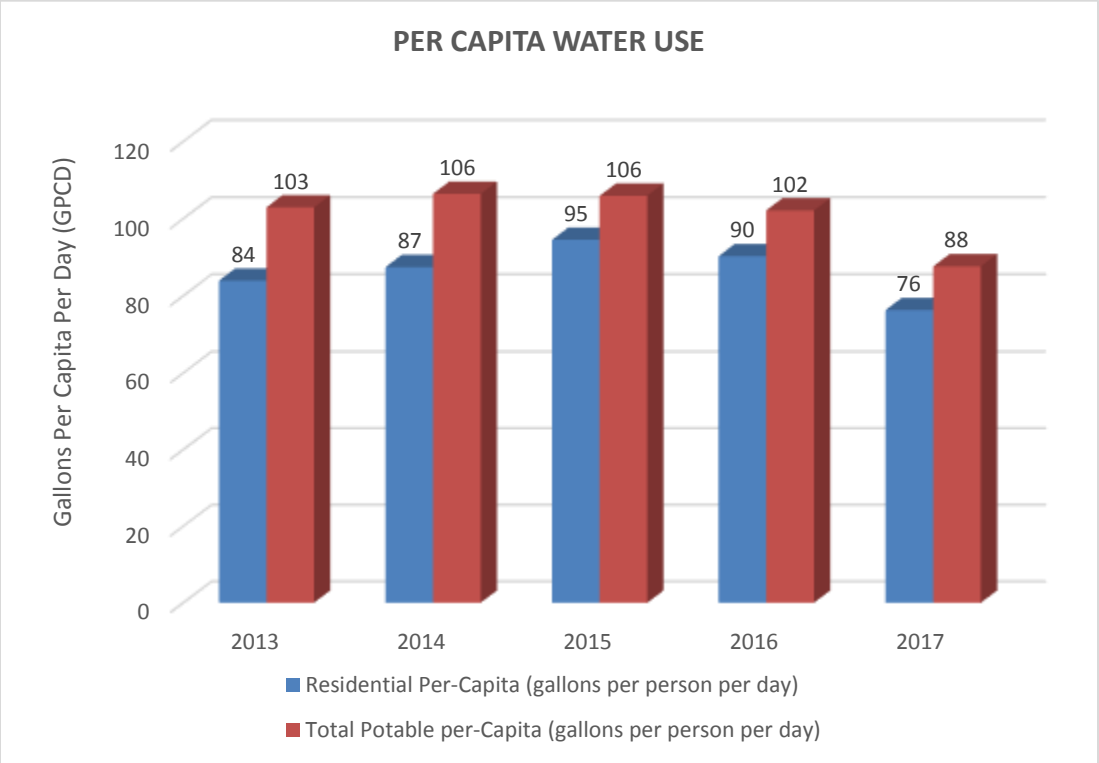
Figure 6: Average Indoor and Outdoor Treated Water Use (2013 – 2017)



Per Capita Water Use

Per capita water use, both system-wide and residential, 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 and quantity of non-residential customers and water uses within the system. In the previous five years, Wellington averaged 101 gallons per capita per day (GPCD) system-wide with 87 GPCD for residential uses. The residential per capita water use includes potable water irrigation use by citizens. The variation in per capita water use from 2013 through 2017 is illustrated in **Figure 7**.

Figure 7: Historical Per Capita Treated Water Deliveries (2013 – 2017)



Annual Raw Distributed Non-Potable Water

Non-potable water use by the School District and the Town is estimated in **Table 7**. The Town currently does not meter non-potable irrigation other than for the School District and for some Town uses. The majority of non-potable irrigation is not metered and is therefore not included in this section. The Town evaluated installing non-potable meters as a water efficiency activity in this Plan.

Table 7: Non-Potable Water Use for the School District and Town

Year	Non-Potable Water Use (AF)
2013	14
2014	14
2015	31
2016	32
2017	29
Average	24

2.3 Past and Current Water Efficient Activities and Impact to Demands

Current Water Efficiency Activities

The Town is in the process of implementing various water efficiency activities and intends to implement many more over the next five years. A brief overview of water efficiency activities previously implemented by the Town are described in further detail below. As this is the Town's first water efficiency planning effort, there were no identified water savings goals for these activities.

After the 2002 drought, the Town adopted mandatory and voluntary watering restrictions from 2003 through 2006. Mandatory restrictions included restricting the watering season from May 1st through October 15th from 5 P.M. to 10 A.M. (except for trees and shrubs). Voluntary water restrictions encouraged residents to limit outdoor water use to two days per week, turn off sprinkler systems after rainstorms, adjust sprinkler systems to avoid water running off lawns and wash cars from buckets or spray nozzles to avoid running water. The water savings from the watering restrictions is unknown as Wellington has upgraded its billing system and is unable to retrieve historical data from the years with watering restrictions. Water restrictions during droughts typically reduce water use considerably when in place.

All customers in Wellington are equipped with meters to monitor water use for billing purposes. Wellington is working towards replacing all its customer meters and installing radios to the upgraded meters. The Town Staff has prioritized replacing meters that are 20 or more years old and have replaced approximately one-third of the system. Within a total of five years, the Town Staff estimate all its customers will be using upgraded meters. The Town reviews water usage through its billing process and regular reporting from the Utility Billing Department on a monthly basis. In addition, the Town's water rate structure currently includes inclining/tiered rates based on monthly water usage per customer.

In 2013, the Town completed an in-depth leak detection analysis of the distribution system; however, leaks are not proactively monitored. No significant leaks were found during the Town's investigation. In 2014, Wellington completed a *Comprehensive Master Plan Update* to help the Town evaluate and plan for future growth.

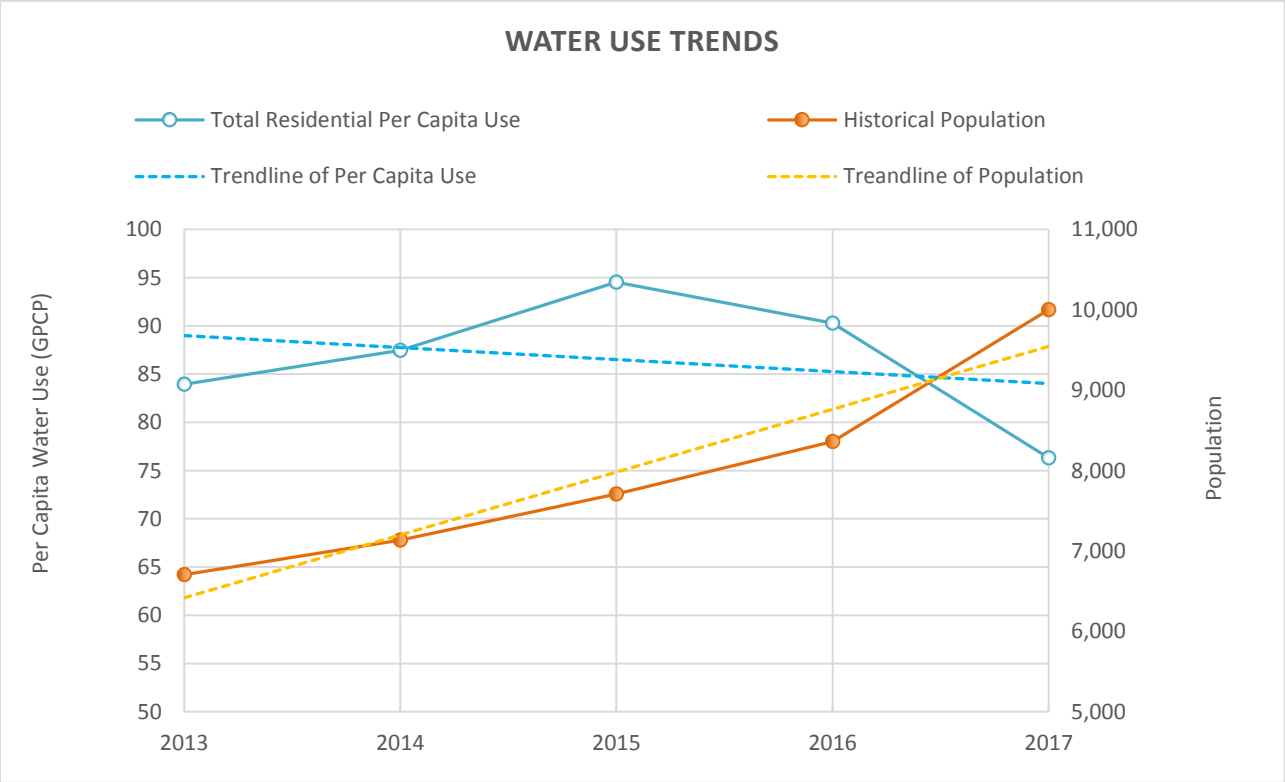
Water Savings Estimates Using Demand Data

Numerous factors contribute to overall water usage so it's challenging to pinpoint the greatest contributors to changes in water usage. 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. The per capita water usage is often used to observe the water savings over time in the absence of specific data for each activity. However, it's important to keep in mind that weather conditions also play a role in the per capita water usage. For example, customers typically use less water for irrigation in wet years than in

dry years as precipitation is able to meet some of the outdoor demands for lawns and landscaping.

Figure 8 illustrates Wellington's population and per capita water usage in the past five years. There is not a clear trend of per capita water usage over this period; however, the per capita usage in 2017 was lower than in the previous four years. According to the Town Staff, the water use in 2017 decreased due to a wet spring and summer which reduced the outdoor demand. Water usage trends may become more evident in the next Plan Update as more years of data can be evaluated and compared. Since Wellington has grown significantly in the past five years, there is a lot of new residential construction and businesses that are already equipped with higher-efficiency fixtures which contributes to a lower per capita water use overall.

Figure 8: Per Capita Water Use (GPCD) Compared to Population



2.4 Demand Forecasts

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. It also helps the Town understand the impact of water efficiency activities on the overall demand.

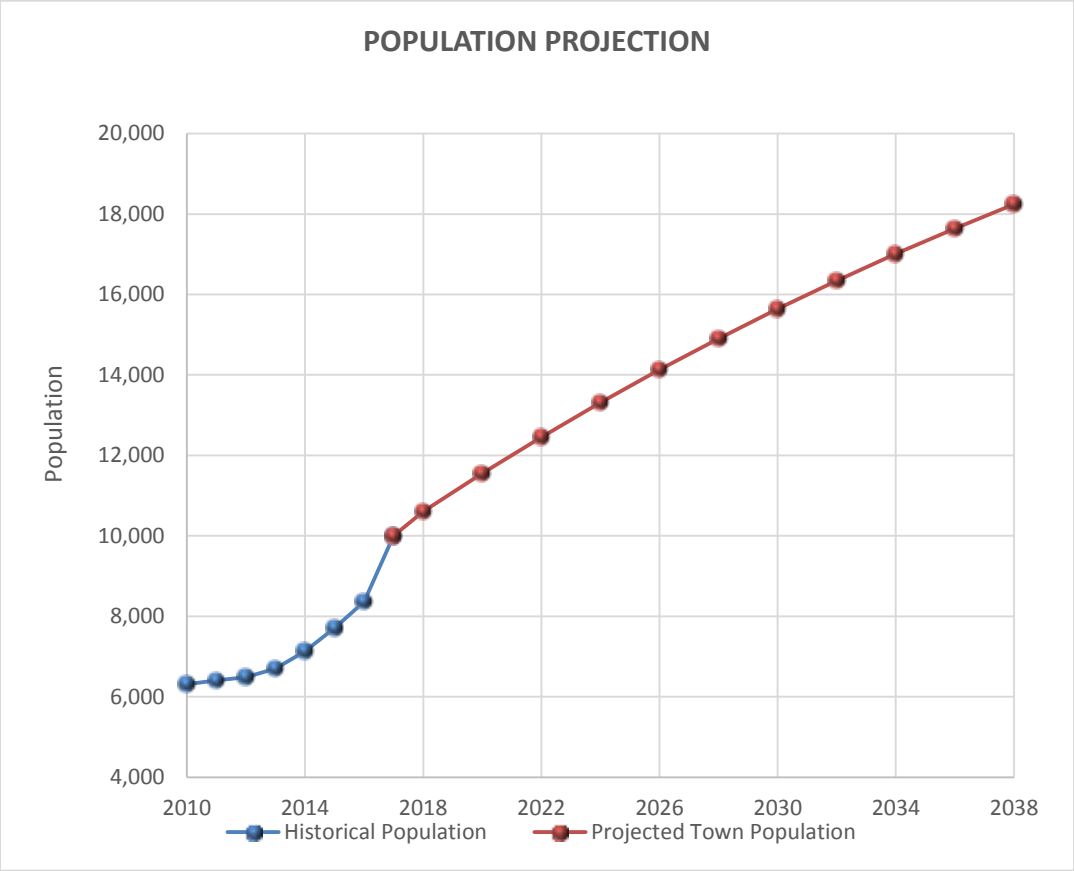
This Plan includes an "unmodified" baseline water demand forecast. An unmodified baseline demand forecast projects future water use assuming a utility continues its existing water efficiency activities but does not implement any new activities. The demand forecast in this Plan uses a ten-year planning horizon (through 2027) and assumes a Plan Update will occur in seven years or 2024, which is recommended in the *Guidance Document.* The Town's *2014 Comprehensive Master Plan Update* outlines key assumptions for future growth in Wellington.

In the unmodified baseline forecast, residential water demand was assumed to increase proportionally to population growth. Residential growth is assumed to occur in existing and approved subdivisions with the potential for new annexations and subdivision developments. Residential demand is projected to continue to be the largest treated water demand in the Town. Population estimates by the Town Staff are shown in two-year increments over the next 20 years in **Table 8** and illustrated in **Figure 9.**

Table 8: Projected 20-Year Population Growth in Two-Year Increments

Year	Projected Town Population	Change in Population (2-yr increments)	Projected Population Growth
2018	10,609	609	6%
2020	11,555	946	9%
2022	12,456	901	8%
2024	13,313	857	7%
2026	14,127	814	6%
2028	14,902	775	5%
2030	15,639	737	5%
2032	16,341	702	4%
2034	17,008	667	4%
2036	17,642	634	4%
2038	18,245	603	3%

Figure 9: Historical and Projected Population Growth



The residential water demand per year was calculated by multiplying the annual projected population by the residential per capita water usage (average of 2016-2017 per capita data). Future water demand by the other customer categories is based on the anticipated growth rate for commercial and irrigation uses over the planning horizon. The commercial water use was assumed to increase at 3.0% per year, which is consistent with the *2014 Comprehensive Master Plan Update* assuming a "low growth rate" scenario[3]. Commercial growth of retail stores and services will occur in approved commercial and business parks within the Town and will primarily serve residents. There is potential for larger commercial developments to serve a regional clientele along the Interstate 25 corridor as well. Since treated water used for irrigation has decreased over the past five years, it was assumed this water usage stays the same in the future (i.e., there is no increase or decrease in irrigation water demand over the planning horizon).

In the Town's unmodified baseline water demand forecast, the total treated water demand is expected to be 1,683 AF by 2027. This total demand includes the demand by

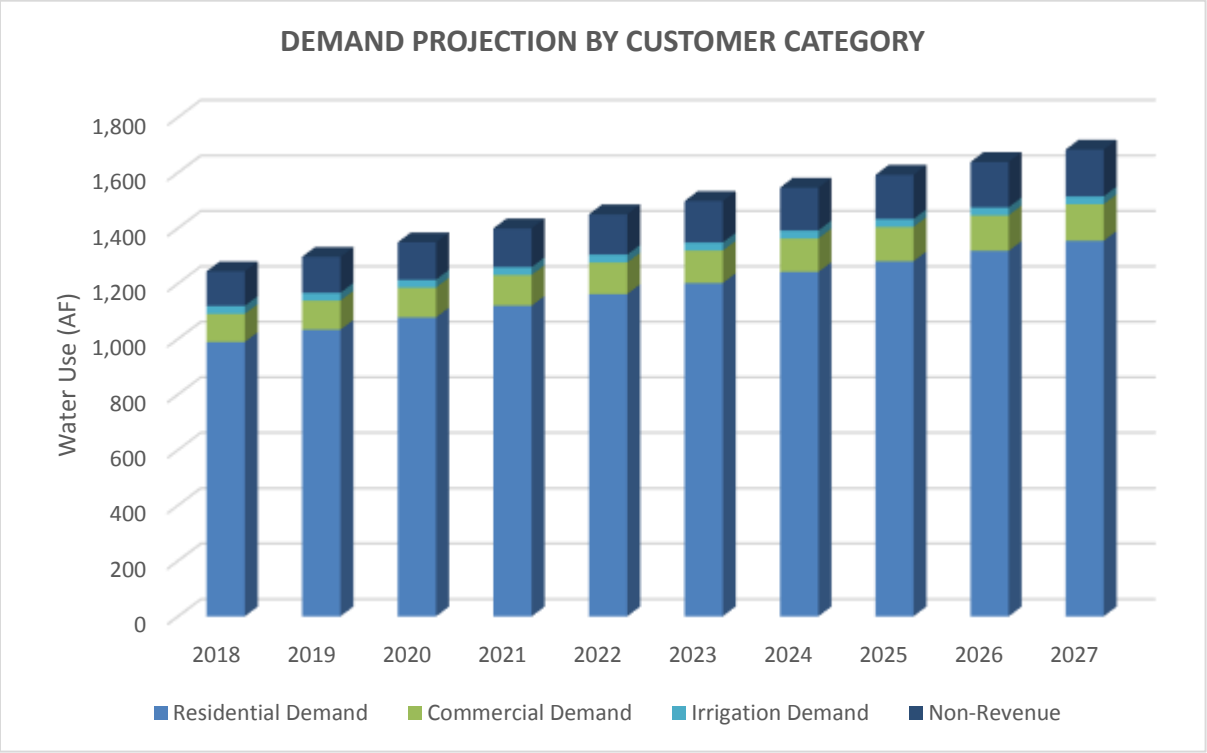
[3] Note that the 3% growth rate in the *2014 Comprehensive Master Plan Update* is referencing residential growth; this Plan assumes commercial growth is 3%. However, this Plan uses the residential growth based on data from Town Staff, which is greater than 3% in most years.

customers and the estimated non-revenue water (i.e., unaccounted for losses in the system). The customer demand for all three customer categories is anticipated to be 1,515 AFY in 2027. **Table 9** presents the unmodified demand forecast starting in 2018 and going through the ten-year planning horizon. The total projected treated water demand for each customer category is in **Figure 10**.

Table 9: Demand Projections

Year	Unmodified Treated Water Demand by Customers (AF)	Non-Revenue Water, 10% (AF)	Unmodified Treated Water Demand (AF)
2018	1,120	124	1,244
2019	1,167	130	1,296
2020	1,214	135	1,349
2021	1,259	140	1,399
2022	1,305	145	1,450
2023	1,348	150	1,498
2024	1,392	155	1,546
2025	1,433	159	1,592
2026	1,475	164	1,639
2027	1,515	168	1,683

Figure 10: Demand Projections for Water Use 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" water demand forecast was developed to estimate the total demand for Wellington that includes water savings from 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 1,426 AF which includes the unaccounted for losses. This equates to a water savings of 258 AF in 2027 in comparison to the unmodified baseline forecast. The average annual water savings during the ten-year planning period is 221 AFY. This water savings represents the impact of the proposed water efficiency activities.

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*, *Slow the Flow Residential Irrigation Audits, new ordinances and regulations, customer incentives like rebates, 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 become over time. The overall raw water demand, however, will naturally continue to increase due to the anticipated population growth of the Town.

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 rebates, 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 Wellington's treated water is illustrated in **Figure 11** and summarized in **Table 10**. The modified demand forecast depicts the estimated passive savings and the total savings (passive and active savings) for the Town.

Figure 11: Demand Projections with Modified Demands

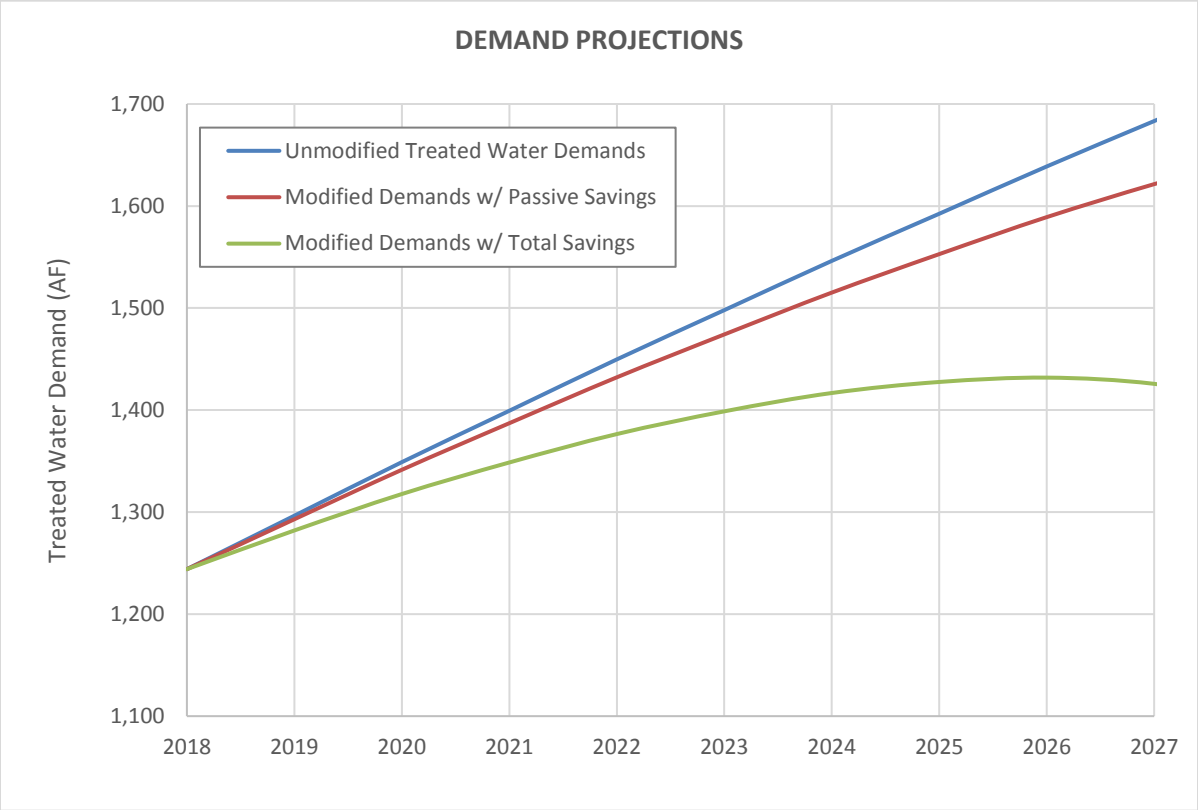


Table 10: Demand Projections – Unmodified and Modified

Year	Unmodified Treated Water Demand (AF)	Modified Treated Water Demand with Passive Savings (AF)	Modified Treated Water Demand with Combination Savings (AF)
2018	1,244	1,244	1,244
2019	1,296	1,293	1,282
2020	1,349	1,341	1,318
2021	1,399	1,387	1,349
2022	1,450	1,432	1,376
2023	1,498	1,474	1,399
2024	1,546	1,515	1,417
2025	1,592	1,553	1,428
2026	1,639	1,589	1,432
2027	1,683	1,621	1,426
Percentage of Savings	-	3.7%	15.3%

Impacts to Future Water Facilities and Supply Acquisitions

Water efficiency planning is very important to Wellington. 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
- Guiding Town Staff in decision-making regarding development and water supply

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 Wellington. The Town staff expressed interest in various water efficiency activities, many focused on residential customers as this is the largest treated water use in Wellington. The educational activities are a high priority for the Town to reach the residential customers. The following preliminary goals were established:

- The targeted water savings goal for this Plan will be to lower the total per capita water use by 5% over five years or a total of 10% over the ten-year planning horizon. The targeted ten-year water reduction goals can be divided into the Town's customer categories as follows:
    - Residential: 12%
    - Commercial: 5%
    - Irrigation: 3%
    - Non-Revenue Water: 1%
- To develop a water efficiency program that can be implemented within Town staffing constraints and with Town Board approval.
- To implement water efficiency activities that are compatible with the community and the Town Board representatives.
- 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.

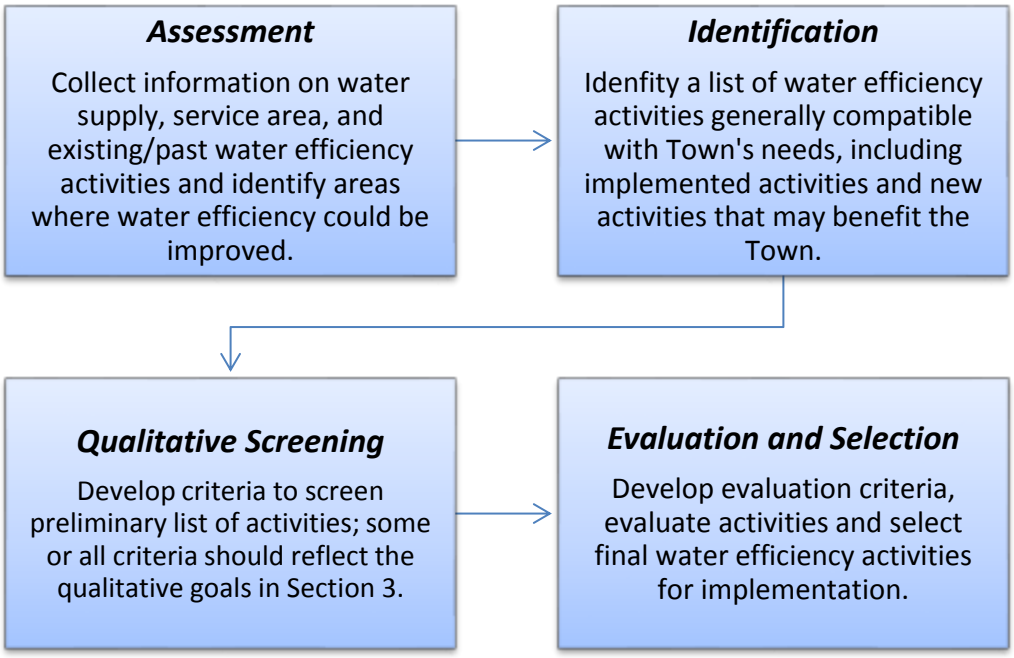
SECTION 4.0 – SELECTION OF WATER EFFICIENCY ACTIVITIES

4.1 Summary of Selection Process

General Overview of Selection Process

Wellington used a four-phase process to select and fully evaluate water efficiency activities for implementation in this Plan, shown in **Figure 12**. This process is recommended in the *Guidance Document*.

Figure 12: 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.

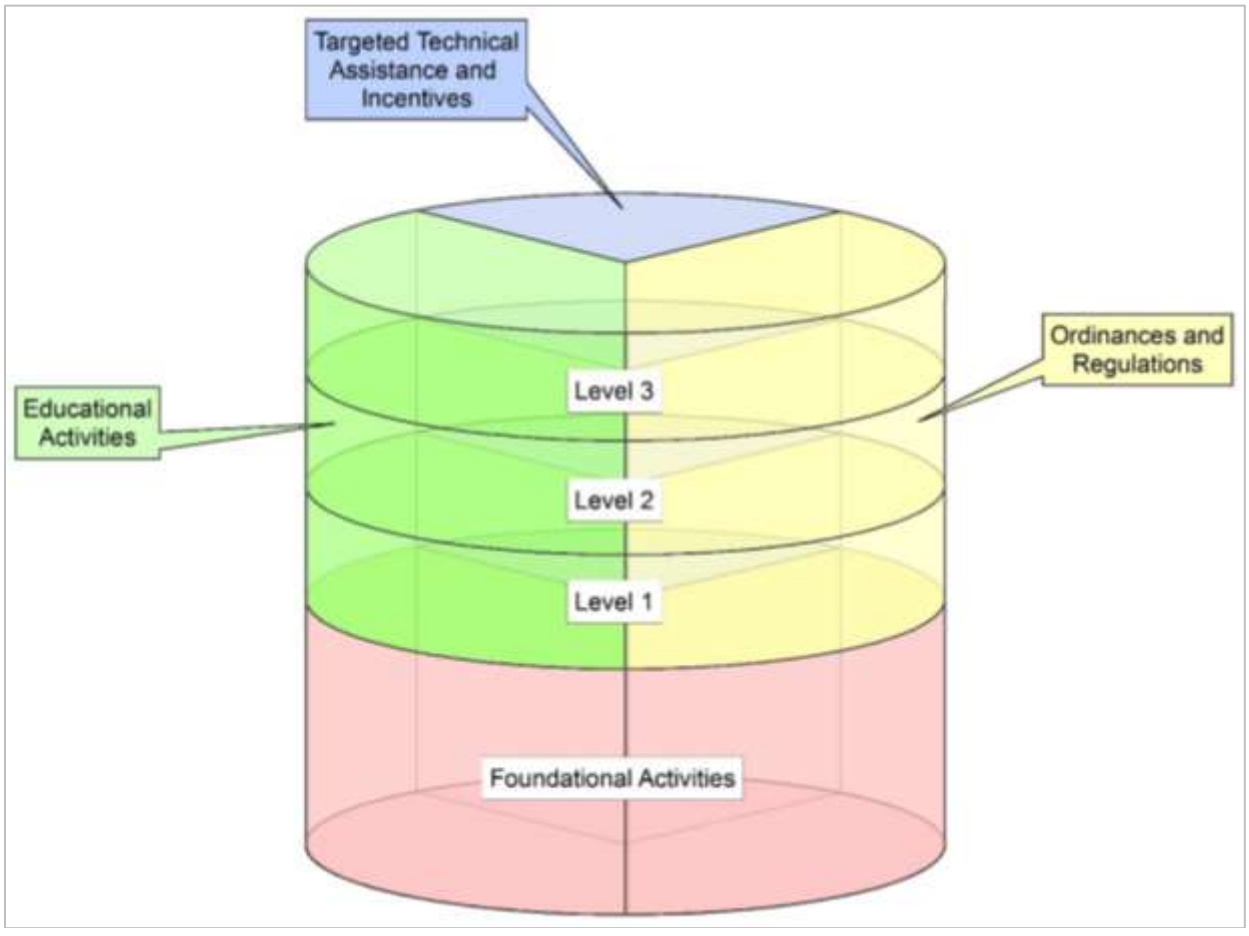
For Phase 2 (Identification), Worksheets D – G from the *Guidance Document* were used to identify a list of activities generally compatible with the Town's needs and goals. Worksheets D – G are provided in **Appendix B**. The list of activities evaluated are organized according to the SWSI Levels Framework. The SWSI Levels Framework was developed as a component of the 2010 SWSI 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 Wellington'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 Wellington and its 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 Wellington is implementing.

The framework can be visually represented as a cylinder consisting of the following four categories, as shown in **Figure 13**.

Figure 13: SWSI Levels Framework



Further discussion regarding the SWSI Levels Framework are provided in subsequent sections.

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; 2) Staff availability; 3) Partnership possibility; 4) Staff and Board approval; 5) Existing or planned Town projects; 6) Community support; 7.) Overlapping criteria. 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 Wellington
- Moderate to high potential reduction of water use
- Town Board and Town community support and acceptance
- Town Staff support and availability
- Cost effectiveness of activity

4.2 Water Efficiency Activities

The initial screening of the water efficiency activities with Town Staff resulted in selecting 33 candidate activities for further evaluation. Some of the activities were combined with other activities within the same SWSI Levels Framework to simplify the evaluation. Of the 33 original activities evaluated, 29 of those activities were chosen for implementation. The analysis of costs and benefits of the 29 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 29 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**
  Wellington 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. The Town is currently in the process of updating its system to new 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's current per-gallon water rate increases with customer usage over 15,000 gallons and over 30,000 gallons.
- **Tap Fees with Water Efficiency Incentives (Lot-based water dedication)**
  The Town would encourage smaller lot sizes in new developments by charging developers reduced fees for smaller lots. For example, this could include a discount on tap fees for turf areas less than 30% or 3,000 square feet. Or, an additional fee could be charged to developments with large irrigated areas.
- **Leak Detection and Repair Program**
  Wellington completed a leak detection program in 2013 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. A *Comprehensive Master Plan* was completed in 2014 and a *Parks and Trails Master Plan* was completed in 2015.
- **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 Park Well Meters**
  Currently, the non-potable wells used for park irrigation in the Town are not metered, making it difficult for the Town Staff to monitor usage and find leaks or problems within the system. Adding meters to these park wells will allow the Town to understand the non-potable water usage; however, it does not reduce the treated water demand.
- **General Monitoring and Verification Activities and General Water Rates and Billing**
  Wellington participates in general water monitoring and verification activities which include frequent meter reading and tracking of use for large water customers. Wellington would like to improve upon the following water monitoring activities:
    - Treated water measured at the WTP
    - Municipal well pumping
    - Tracking water use by customer category
    - Non-potable irrigation use

  Wellington would like to expand their data gathering and monitoring activities in order to better understand all water uses and to be able to determine problems before they arise. Additionally, Wellington's water rates and billing encourage citizens to conserve water through volumetric billing with inclining/tiered rates and frequent billing.

Targeted Technical Assistance and Incentives

- **Slow the Flow Residential Irrigation Audits**
  Resource Central (ReCen) offers “Slow the Flow” Residential Irrigation Audits for communities like Wellington. "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 will also help educate the Town’s participants on how to irrigate more effectively and efficiently.
- **Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)**
  The Town could offer rebates for high-efficiency toilets or bathroom fixtures. Costs associated with this program include Staff time to process the rebates and the actual cost of the rebate to customers.
- **Giveaways: Water Audit Kits**
  The Town can customize Water Audit Kits with many useful, educational, 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 Wellington’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.

Ordinances and Regulations

- **Weekly and Time of Day Outdoor Watering Restrictions**
  Wellington has implemented mandatory and voluntary restrictions in some years. Mandatory restrictions in 2006 included limits on outdoor watering from April 1st through October 15th and restricted watering to the hours between 5:00 P.M. to 10:00 A.M. Voluntary restrictions asked residents to limit outdoor watering to two days per week, turn off automatic watering systems after rainstorms, and participate in other outdoor water-savings practices.
- **Water Waste Ordinance**
  Wellington does not currently have a water waste ordinance. Examples of regulations in a water waste ordinance include: limiting at-home car washing, requiring customers to maintain water lines and repair leaks, or limiting excess water from irrigation. Additionally, Wellington Staff would like to implement ordinances for water waste associated with water main breaks on private property.
- **Landscape Design Ordinances and Restrictions**
  The Town is currently in the process of developing landscape design ordinances and restrictions. Examples may include: Rules and Regulations for Landscape Design/Installation, Non-potable System Requirements, Soil Amendment Requirements, Turf Restrictions, and Irrigation Equipment Requirements.
- **Commercial Water Wise Use Regulations**
  The Town does not currently have commercial use regulations. Commercial policies and ordinances may include water audits, efficiency measures and plans, restrictions on the wasteful use of water, etc. These may be applicable to current and/or future proposed commercial businesses like restaurants and carwashes. Policy examples include: providing restaurants customers with water glasses only upon request or requiring carwashes to have shutoff values for hoses to avoid unnecessary water use.

Educational Activities

- **Public Education Activities**
  The Town Staff are very interested in providing educational materials on water efficiency to its citizens through one or a combination of: bill stuffers, newsletters, newspaper articles, mass mailings, interactive webpages, and social networking.
- **Children's Water Fair or Festival**
  Wellington would like to participate in fairs or festivals to provide educational materials to students about water conservation. The Town may be able to partner with other organizations and groups to reduce the staff time needed to prepare

materials and network with students. The Town sees the value in educating its youth on good stewardship of water in Colorado.

- **K-12 Teacher and Classroom Education Programs**
  The Town may develop a K-12 Teacher and Classroom Education Program. There are various resources and tools online to help the Town develop a program, train educators and collaborate with other water educators in the State.
- **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 Water District website provides turf water use guides by location.
- **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. One potential location is at the Wellington Community Park. The Northern Water District in Berthoud, Colorado has a large demonstration garden as an example.
- **Customer Surveys**
  Customer Surveys provide educational materials on water savings opportunities and water efficiency programs to residents. These can be targeted at high water use customers to maximize water savings for the Town. Costs include staff time to prepare surveys and collect responses. An online survey could be emailed to residents and include educational material on ways to save water at home to reduce their bills.

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 $2.14 per 1,000 gallons saved for the Leak Detection and Repair Program to $69.34 per 1,000 gallons saved for the Xeriscape Demonstration Garden. Non-Potable Park Well Meters is the lowest cost of all the activities. The 29 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 11** shows the water savings for the selected activities, sub-totaled for each customer category.

Table 11: Combined Water Savings of Selected Water Efficiency Activities

Water Efficiency Activities **yellow rows are existing activities*	Estimated Annual Water Savings (MG/yr)*	Estimated Total Water Savings over Planning Period (MG)*
Non-Revenue Water		
System Wide Water Audits	0.24	2.4
Automatic Meter Reading Installation and Operations	0.24	2.4
Advanced Metering Infrastructure Installation and Operations	0.48	4.8
Leak Detection and Repair Program	2.39	23.9
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.24	2.4
Drought Management Plan	0.48	4.8
General Monitoring and Verification Activities and General Water Rates and Billing	0.12	1.2
Subtotal - MG	**4.2**	**41.9**
Acre-Feet	**12.9**	**129**
Residential		
Automatic Meter Reading Installation and Operations	1.92	19.2
Advanced Metering Infrastructure Installation and Operations	23.03	230.3
Water Rate Study - Water Efficient Rate Structure with Regular Updates	19.20	192.0
Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)	0.73	7.3
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	1.92	19.2
Drought Management Plan	3.84	38.4
General Monitoring and Verification Activities and General Water Rates and Billing	0.96	9.6
Slow the Flow Residential Irrigation Audits	0.02	1.0
Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)	0.06	3.6
Giveaways: Water Audit Kits	0.02	1.0
Xeriscape Incentives - Garden in a Box	0.00	0.2
Weekly and Time of Day Outdoor Watering Restrictions	0.28	2.8
Water Waste Ordinance	0.38	3.8
Landscape Design Ordinances and Restrictions	1.10	11.0

. **Some columns have alternate units as listed in the first column*

Water Efficiency Activities **yellow rows are existing activities*	Estimated Annual Water Savings (MG/yr)*	Estimated Total Water Savings over Planning Period (MG)*
Residential		
Educational Activities (Bill Stuffers, Social Networking, Web Pages, etc.)	7.68	76.8
Children's Water Fair or Festival	0.05	2.9
K-12 Teacher and Classroom Education Programs	0.05	2.9
Post or Distribute ET Irrigation Scheduling	2.84	28.4
Xeriscape Demonstration Garden	0.00	0.26
Customer Surveys	0.02	1.3
Subtotal - MG	**64.1**	**652.0**
Acre-Feet	**196.8**	**2,001**
Commercial		
Automatic Meter Reading Installation and Operations	0.19	1.9
Advanced Metering Infrastructure Installation and Operations	1.13	11.3
Water Rate Study - Water Efficient Rate Structure with Regular Updates	0.76	7.6
Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)	0.07	0.7
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.19	1.9
Drought Management Plan	0.38	3.8
General Monitoring and Verification Activities and General Water Rates and Billing	0.09	0.9
Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)	0.03	1.9
Giveaways: Water Audit Kits	0.01	0.3
Xeriscape Incentives - Garden in a Box	0.00	0.0
Weekly and Time of Day Outdoor Watering Restrictions	0.03	0.3
Water Waste Ordinance	0.04	0.4
Landscape Design Ordinances and Restrictions	0.12	1.2
Commercial Water Wise Use Regulations	0.04	0.4
Educational Activities (Bill Stuffers, Social Networking, Web Pages, etc.)	0.28	2.8
Post or Distribute ET Irrigation Scheduling	0.30	2.98
Xeriscape Demonstration Garden	0.00	0.08
Subtotal - MG	**3.7**	**38.5**
Acre-Feet	**11.2**	**118**

**Some columns have alternate units as listed in the first column.*

Water Efficiency Activities **yellow rows are existing activities*	Estimated Annual Water Savings (MG/yr)*	Estimated Total Water Savings over Planning Period (MG)*
Irrigation		
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	0.05	0.5
Drought Management Plan	0.09	0.9
General Monitoring and Verification Activities and General Water Rates and Billing	0.02	0.2
Subtotal - MG	**0.2**	**1.6**
Acre-Feet	***0.5***	***5***
Non-Potable Irrigation		
Non-Potable Park Well Meters	0.69	6.9
Subtotal - MG	**0.7**	**6.9**
Acre-Feet	***2.1***	***21***
Grand Total - (MG)	**73**	**741**
Acre-Feet	***223***	***2,274***
Grand Total Savings from Existing Measures (Acre-Feet)	***27***	***265***
Treated Water Total - (MG)	**72**	**734**
Acre-Feet	***221***	***2,253***
Treated Water Total Savings from Existing Measures (Acre-Feet)	***27***	***265***

**Some columns have alternate units as listed in the first column.*

The selected activities would provide an overall estimated water savings of 2,253 AF during ten full years of implementation. The water savings per customer category in **Table 11** was compared to the original water savings goals identified in **Section 3.0**. The final water savings per customer category were greater than the preliminary goals. **Table 12** compares the anticipated water savings from the selected activities with the original goals and then adjusts the water saving goals for this Plan. Overall, Wellington is anticipated to reduce water use by 15% if the selected water efficiency activities in this Plan are implemented.

Table 12: Water Efficiency Goals Comparison

Water Use Categories:	Total Projected Water Use (2018 to 2027) (AF)	Reduction Goals for Planning Horizon (%)	Reduction Goals for Planning Horizon (AF)	Adjusted Reduction Goals for Planning Horizon: Total Water Savings from Activities (AF)	Adjusted Reduction Goals for Planning Horizon: Resulting Reduction (%)
Residential	11,782	12%	1,414	2,001	17%
Commercial	1,159	5%	58	118	10%
Irrigation	286	3%	9	5	2%
Non-Revenue Water*	1,470	1%	15	129	9%
Total Water Production:	14,697				
Total Demand Reduction:			1,495	2,253	
Total Percent Reduction:			*10%*		*15%*

**Note that no data was available to calculate the historical or projected non-revenue water; therefore, this is an estimate.*

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 and Finance, will have roles in implementing some of the selected activities in this Plan. Wellington's proposed implementation plan is presented in Worksheet J, **Appendix B**. Wellington 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. Wellington tracks total treated water and the treated water use per customer category on a monthly and annual basis. Raw water from the NPIC is provided 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 the following, **Table 13**.

Table 13: 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			
Well water produced (Wilson Wells and others)					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 February 27, 2019, to April 28, 2019. The public notification also included instructions on how to review the Plan and submit comments. The Plan was available for download on Wellington'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 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. A final copy of the Plan was provided to the Town Board for review and comment and the Wellington Town Board formally adopted the Plan at the Board Meeting on May 28, 2019. A copy of the Plan was submitted to the CWCB immediately following the Board Meeting for formal approval.

The CWCB provided written notification of conditional approval with minor additions on August 15, 2019. Conditions for approval were addressed, and the official approval was received on [date]. 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 2020.

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. Wellington 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.* Wellington'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 Wellington'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 Plan period. Water use trends and other information discovered through this process, such as community feedback, will help the Town navigate future planning 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 first 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.

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 Wellington, 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.
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.
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) and additional information within the document.
Non-Potable Use:	Water that is not treated and used for irrigation or other uses than potable.
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 and its Municipal Subdistrict provide water to Northeastern Colorado from the Colorado-Big Thompson and Windy Gap projects.
NPIC:	North Poudre Irrigation Company
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. Once treated, the Town's C-BT water is used for potable 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.
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.
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] [4]	How is Limitation or Future Need Being Addressed [4]
System is in a designated critical water supply shortage area	X		SWSI 2010 Report identified a 58% gap in water needs versus supplies in South Platte Basin.	Municipal Water Efficiency Plan is in development; water efficiency activities are being investigated and planned.
System experiences frequent water supply shortages and/or emergencies		X	No frequent shortages.	
System has substantial non-revenue water	?		Non-Revenue Water is unknown because of limited data availability.	The development of this Plan will help the Town with data collection and monitoring efforts.
Experiencing high rates of population and demand growth	X		High growth in the 2000s. Last five years, average population growth at 8%. Town anticipates continued residential and commercial growth. Additional lands anticipated for annexation into the Town limits by 2032 will nearly double the population at build-out.	Proactively looking for additional water supplies; water efficiency activities being investigated and planned; planned upgrades to Water Treatment and Wastewater Treatment Plants.
Planning substantial improvements or additions	X		Water Treatment Plant (WTP) Upgrades anticipated in the near future.	Upgrades in-process.
Increases to wastewater system capacity anticipated	X		Wastewater Treatment Plant (WWTP) Upgrade anticipated in the near future.	Upgrades in-process.
Need additional drought reserves		X	None needed at this time.	
Drinking water quality issues		X	None at this time.	
Aging infrastructure in need of repair		X	Majority of system is relatively new. The WTPs and WWTP will be expanded to increase capacities. Residential meters are currently being replaced as some are 20+ years old.	
Issues with water pressure in portions of distribution system		X	No major issues. Water is distributed by water source (NPIC water, well water) according to "pressure zones" within the Town.	

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/P	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 is currently in the process of upgrading customer meters.
Meter Upgrades	V	E/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		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 reevaluate with 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					
Frequency of Billing	VII					
Inclining/Tiered Rates	VII, VIII					
Water Budgets	VII, VIII					
Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)	VII, VIII	P	All Categories [a]		X	
System Water Loss Management and Control (BP3)	V					
System Wide Water Audits	V	P	Non-Revenue		X	
Control of Apparent Losses (with Metering)	V	E	Non-Revenue			Town has metering and a SCADA system that monitors losses. However due to staff, time and budget constraints the Town did not want to expand this activity at this point.
Leak Detection and Repair	V	E/P	Non-Revenue		X	
Water Line Replacement Program	V					
Planning (BP2)						
Integrated Water Resources Plans		E/P	All Categories		X	
Master Plans/Water Supply Plans						
Capital Improvement Plans						
Feasibility Studies						Not a priority for the Town; May reevaluate with future planning efforts.
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 table.
[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	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 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	I	P	X	X	X	Residential, Commercial		X	
Urinal Retrofits									Not a priority for the Town; Limited benefit
Showerhead Retrofits	I	P			X	Residential, Commercial		X	
Faucet Retrofits (e.g. aerator installation)	I	P	X	X	X	Residential, Commercial		X	
Water Efficient Washing Machines									Not a priority for the Town
Water Efficient Dishwashers									Not a priority for the Town
Efficient Swamp Cooler and Air Conditioning Use									Not a priority for the Town
Low Water Use Landscapes	II								
Drought Resistant Vegetation									
Removal of Phreatophytes	II	P	X			Irrigation		X	Ultimately, Town did not select due to the potential lack of community support.
Irrigation Efficiency Evaluations/Outdoor Water Audits (Slow the Flow)	II	P			X	Residential		X	
Outdoor Irrigation Controllers	II	P	X	X	X	Residential, Commercial		X	Ultimately, Town did not select due to the relatively high costs to low water savings, and limited staff availability.
Irrigation Scheduling/Timing									Not a priority for the Town as most irrigation is from non-potable sources.
Rain Sensors	II	P	X	X	X	Residential, Commercial		X	Ultimately, Town did not select due to the relatively high costs to low water savings, and limited staff availability.
Residential Outdoor Meter Installations									Staff, time and resource constraints.
Xeriscape									Not a priority for the Town; Focus is on Garden in a Box Program for residential/commercial users.
Other Low Water Use Landscapes									
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	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	X	P	X	X	X	Residential, Commercial		X	
Urinal Rebates									Not a priority for the Town; Limited benefit.
Showerhead Rebates	X	P			X	Residential, Commercial		X	
Water Efficient Faucet or Aerator Rebates		P			X	Residential, Commercial		X	
Water Efficient Washing Machine Rebates									Not a priority for the Town; Focus is on toilets, showerheads and faucets.
Water Efficient Dishwasher Rebates									Not a priority for the Town; Focus is on toilets, showerheads and faucets.
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	X	P			X	Residential		X	
Turf Replacement Programs/Xeriscape Incentives (Garden in a Box)	X	P			X	Residential, Commercial		X	
Give-aways (Water Audit Kits)	X	P		X	X	Residential, Commercial		X	

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; May reevaluate with future planning efforts and/or combine it with another regulation
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)									Not a priority for the Town
Indoor and Commercial Regulations	IX								
High Efficiency Fixture and Appliance Replacement (BP 12)									A large portion of the Town is newer construction, in the last 10-15 years, so many homes/businesses have high efficiency fixtures already
Commercial Cooling and Process Water Requirements (BP 14)									Not a significant number of commercial customers
Green Building Construction (BP 12)									Not a priority for the Town
Indoor Plumbing Requirements (BP 12)									Many businesses have high efficiency fixtures already
City Facility Requirements (BP 12)									Not a priority for the Town
Required Indoor Residential Audits (BP 13)									Potential lack of community support
Required Indoor Commercial Audits (BP 14)									Potential lack of community support
Commercial Water Wise Use Regulations (Car Washes, Restaurants, etc.)	IX	P	X	X		Commercial		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		Reason for Elimination [8]
		Existing/ Potential Activity [3]	SWSI Framework Levels [4]			Targeted Customer Category [5]	Notes on Additional Pros/Cons to Consider	Carry to Evaluation [7]	
			Level 1 One-Way	Level 2 One-Way with Feedback	Level 3 Two-way communication				
Customer Education (BP6)	VI								
Bill Stuffers	VI	P	X			Residential, Commercial		X	
Newsletter	VI	P	X			Residential, Commercial		X	
Newspaper Articles	VI	P	X			Residential, Commercial		X	
Mass Mailings	VI	P	X			Residential, Commercial		X	
Web Pages	VI	P	X			Residential, Commercial		X	
Water Fairs	VI	P		X		Residential		X	
K-12 Teacher and Classroom Education Programs	VI	P		X		Residential		X	
Message Development/Campaign	VI								Not a priority for the Town; May be incorporated into another educational activity in future planning efforts.
Interactive Websites	VI	P		X		Residential, Commercial		X	
Social Networking (e.g. Facebook)	VI	P		X		Residential, Commercial		X	
Customer Surveys	VI	P		X		Residential, Commercial		X	
Focus Groups	VI								Staff and time constraints.
Citizen Advisory Boards	VI	P			X	Residential, Commercial		X	Ultimately, Town did not select due to a lack of staff support and lack of potential community support.
Technical Assistance	VI								
Customer Water Use Workshops	VI	P		X		Residential		X	Ultimately, Town did not select due to a relatively high costs to low water savings.
Landscape Design and Maintenance Workshops	VI	P		X		Residential, Commercial		X	Ultimately, Town did not select due to the relatively high cost to low water savings, limited staff availabiltiy, and lack of staff support; Interested citizens can attend Northern Water's workshop.
Xeriscape Demonstration Garden	VI	P	X			Residential, Commercial		X	
Water Conservation Expert Available	VI								Staff, time and budget constraints.
Post or Distribute ET Irrigation Scheduling		P	X			Residential, Commercial		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.

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 1-2 years	Research IWA/AWWA Water Audit Method	Finance/Public Works	
Automatic Meter Reading Installation and Operations	Next 1-2 years	Continue upgrading meters	Public Works	
Advanced Metering Infrastructure Installation and Operations	Next 1-2 years	Research costs and grant opportunities	Public Works	
Water Rate Study - Water Efficient Rate Structure with Regular Updates	Next 1-2 years	Continue working on request for proposal	Finance	Update water rates and notify public
Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)	Next 1-2 years	Develop potential ordinance and propose to Town Board	Finance	
Leak Detection and Repair Program	Next 1-2 years	Request quote from consultant and schedule next program	Public Works	
Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans	Next 1-3 years	Continue periodic updates to Comprehensive Plan	Finance/Administration	
Drought Management Plan	Next 3-5 years	Develop a request for proposal; submit grant application to CWCB	Finance/Administration	
Non-Potable Park Well Meters	Next 3-5 years	Conduct assessment of non-potable wells; Get a quote from a consultant for meters	Public Works	
General Monitoring and Verification Activities and General Water Rates and Billing	Ongoing	Ongoing	Finance/Public Works	
Targeted Technical Assistance and Incentives				
Slow the Flow Residential Irrigation Audits	Next 3-5 years	Contact ReCen to set up program	Finance/Administration	Advertise program to residents/businesses
Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)	Next 3-5 years	Set up rebate program	Finance/Administration	
Giveaways: Water Audit Kits	Next 3-5 years	Request quote from AM Conservation Group or other kit provider	Finance/Administration	Provide an information/giveaway booth at community events
Xeriscape Incentives - Garden in a Box	Next 3-5 years	Contact ReCen to set up program	Finance/Administration	Advertise program to residents/businesses
Ordinances and Regulations				
Weekly and Time of Day Outdoor Watering Restrictions	Ongoing	Ongoing	Administration	Notify the public of ordinances/regulations
Water Waste Ordinance	Next 3-5 years	Develop potential ordinance and propose to Town Board	Administration	
Landscape Design Ordinances and Restrictions	Next 1-2 years	Develop potential ordinance and propose to Town Board	Administration/Planning	
Commercial Water Wise Use Regulations	Next 3-5 years	Develop potential regulation and propose to Town Board	Administration/Planning	
Education Activities				
Bill Stuffers	Next 1-3 years	Prepare educational materials to distribute	Administration	Look at partnering with Colorado WaterWise or other organizations for educational campaigns
Newsletters	Next 1-3 years	Prepare educational materials to distribute	Administration	
Newspaper Articles	Next 1-3 years	Prepare article and submit it to the newspaper	Administration	
Mass Mailings	Next 1-3 years	Prepare educational materials to distribute	Administration	
Interactive Webpages and Website Updates	Next 1-3 years	Update website with conservation page	Administration	
Social Networking (Facebook & Twitter)	Next 1-3 years	Develop a plan for social media marketing efforts	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
K-12 Teacher and Classroom Education Programs	Next 1-3 years	Contact school representatives to organize; Develop education program; Research existing program resources	Administration	
Post or Distribute ET Irrigation Scheduling	Next 1-3 years	Determine distribution method; Research Northern Water's ET Irrigation Scheduler	Administration	
Xeriscape Demonstration Garden	Next 3-5 years	Propose location to Town Board; Contact ReCen, Denver Botanic Gardens, or CSU for help in design; Contact local organization to volunteer in planting and upkeep	Public Works	Contact listed organizations for partnering opportunities
Customer Surveys	Next 3-5 years	Create and distribute a survey through an online platform	Administration	Set up survey and request feedback from customers

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				Administration/Public Works	NPIC treated water data provided from NPIC to Administration/Finance Depts.
Well water produced (Wilson Wells and others)					X				Administration/Public Works	Data from Wilson Wells and other wells may be compiled by Public Works.
Total treated water delivered (sum of customer meters)	√				X	X			Finance or Utility Billing	Data from billing software compiled by Finance Depts. and/or the Utility Billing Dept.
Raw non-potable deliveries					X	X			Administration/Public Works	
Reclaimed water produced (metered at WWTP discharge)										
Reclaimed water delivered (sum of customer meters)										
Per capita water use					X				Finance or Utility Billing/Administration	Calculation based on the total billed water (data from billing software compiled by Finance/Utility Billing) and the population (may be compiled by Administration).
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				Finance or Utility Billing/Administration/Public Works	Calculation based on the total treated water at the WTPs (Administration/Public Works) less the total billed water (from Finance or Utility Billing).
Water Use by Customer Type										
Treated water delivered		√			X	X			Finance or Utility Billing	Data from billing software compiled by Finance Dept. or Utility Billing.
Raw non-potable deliveries										
Reclaimed water delivered										
Residential per capita water use					X				Finance or Utility Billing/Administration	Calculation based on the residential billed water (data from billing software compiled by Finance or Utility Billing) and the population (may be compiled by Administration).
Unit water use (e.g. AF/account or AF/irrigated acre)					X				Finance or Utility Billing/Administration/Public Works	Estimated based on the billed water by customer category and the number of taps.
Indoor and outdoor treated water deliveries										
Large users					X	X			Finance or Utility Billing/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/Building or Planning	Based on State Demography Office estimates and/or internal estimates from the Town's planning efforts.
New taps					X	X			Finance or Utility Billing/Administration/Public Works	Based on 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 C-1: 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	Department Responsible	Schedule
	Foundational Activities														7								
1	*System Wide Water Audits*	P	Non-Revenue	X	X	X		X		X	**2.4**	**7.35**	**0.24**	**0.73**	**$4.06**	**$9,716**	X	X			**X**	Public Works	1-3 years
2	*Automatic Meter Reading Installation and Operations*	E/P	Residential, Commercial	X		X		X	X	X	**23.5**	**72.05**	**2.35**	**7.21**	**$64.54**	**$1,515,241**	X		X		**X**	Public Works	1-3 years
3	*Advanced Metering Infrastructure Installation and Operations*	P	Residential, Commercial	X		X		X	X	X	**246.5**	**756.38**	**24.65**	**75.64**	**$11.59**	**$2,855,511**	X		X		**X**	Public Works	1-3 years
4	*Water Rate Study - Water Efficient Rate Structure with Regular Updates*	P	Residential, Commercial	X	X	X		X	X	X	**199.5**	**612.28**	**19.95**	**61.23**	**$2.54**	**$507,287**	X	X	X		**X**	Finance	1-3 years
5	*Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)*	P	Residential, Commercial	X		X		X	X	X	**8.0**	**24.59**	**0.80**	**2.46**	**$7.87**	**$63,058**	X		X		**X**	Finance	1-3 years
6	*Leak Detection and Repair Program*	E/P	Non-Revenue	X	X	X		X	X	X	**23.9**	**73.49**	**2.39**	**7.35**	**$2.14**	**$51,245**	X	X	X		**X**	Public Works	1-3 years
7	*Master Plans/Water Supply Plans/Integrated Water Resource Plans/Capital Improvement Plans*	E/P	All Categories	X		X		X	X	X	**23.9**	**73.49**	**2.39**	**7.35**	**$27.87**	**$667,358**	X		X		**X**	Administration, Finance	1-3 years
8	*Drought Management Plan*	P	All Categories	X		X		X		X	**47.9**	**146.97**	**4.79**	**14.70**	**$9.63**	**$460,993**	X		X		**X**	Administration, Finance	3-5 years
9	*Non-Potable Park Well Meters*	P	Non-Pot Irrigation	X	X	X		X		X	**6.9**	**21.25**	**0.69**	**2.13**	**$0.65**	**$4,503**	X	X			**X**	Public Works	3-5 years
10	*General Monitoring and Verification Activities and General Water Rates and Billing*	E/P	All Categories	X	X	X		X	X	X	**12.0**	**36.74**	**1.20**	**3.67**	**$3.65**	**$43,722**	X	X	X		**X**	Finance, Public Works	ongoing
	Targeted Technical Assistance and Incentives																						
11	*Slow the Flow Residential Irrigation Audits*	P	Residential	X		X	X	X		X	**1.0**	**2.92**	**0.02**	**0.05**	**$22.62**	**$21,526**	X				**X**	Administration, Finance	3-5 years
12	*Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)*	P	Residential, Commercial	X		X		X		X	**5.5**	**16.82**	**0.10**	**0.31**	**$24.05**	**$131,813**	X				**X**	Administration, Finance	3-5 years
13	*Giveaways: Water Audit Kits*	P	Residential, Commercial	X		X		X		X	**1.3**	**4.07**	**0.02**	**0.07**	**$45.80**	**$60,712**					**X**	Administration, Finance	3-5 years
14	*Xeriscape Incentives - Garden in a Box*	P	Residential, Commercial	X		X	X	X		X	**0.2**	**0.73**	**0.00**	**0.01**	**$38.88**	**$9,197**	X				X	Administration, Finance	3-5 years
	Ordinances and Regulations																						
15	*Weekly and Time of Day Outdoor Watering Restrictions*	E	Residential, Commercial	X	X	X		X	X	X	**3.1**	**9.63**	**0.31**	**0.96**	**$7.59**	**$23,827**	X	X	X		**X**	Administration	1-3 years
16	*Water Waste Ordinance*	P	Residential, Commercial	X	X	X		X		X	**4.2**	**12.94**	**0.42**	**1.29**	**$6.89**	**$29,050**	X	X	X		**X**	Administration	1-3 years
17	*Landscape Design Ordinances and Restrictions*	P	Residential, Commercial	X	X	X		X	X	X	**12.2**	**37.38**	**1.22**	**3.74**	**$7.64**	**$93,032**	X	X			**X**	Administration, Planning	1-3 years
18	*Commercial Water Wise Use Regulations*	P	Commercial	X		X		X		X	**0.4**	**1.16**	**0.04**	**0.12**	**$17.59**	**$6,643.51**	X				**X**	Administration, Planning	1-3 years
	Education Activities																						
19	*Bill Stuffers*	P	Residential, Commercial	X	X	X		X		X	**79.6**	**244.3**	**8.0**	**24.4**	**$7.13**	**$567,471.54**	X	X	X		**X**	Administration	1-3 years
20	*Newsletters*	P		X	X	X		X		X							X	X	X		**X**	Administration	1-3 years
21	*Newspaper Articles*	P		X	X	X		X		X							X	X	X		**X**	Administration	1-3 years
22	*Mass Mailings*	P		X	X	X		X		X							X	X	X		**X**	Administration	1-3 years
23	*Interactive Webpages and Website Updates*	P		X	X	X		X		X							X	X	X		**X**	Administration	1-3 years
24	*Social Networking (Facebook & Twitter)*	P		X	X	X		X		X							X	X	X		**X**	Administration	1-3 years
25	*Children's Water Fair or Festival*	P	Residential	X		X	X	X		X	**2.9**	**9.00**	**0.05**	**0.16**	**$8.52**	**$24,983.77**	X				**X**	Administration	1-3 years
26	*K-12 Teacher and Classroom Education Programs*	P	Residential	X		X	X	X		X	**2.9**	**9.00**	**0.05**	**0.16**	**$8.72**	**$25,554.77**	X				**X**	Administration	1-3 years
27	*Post or Distribute ET Irrigation Scheduling*	P	Residential, Commercial	X	X	X		X		X	**31.4**	**96.32**	**3.14**	**9.63**	**$6.22**	**$195,130**	X	X			**X**	Administration	1-3 years
28	*Xeriscape Demonstration Garden*	P	Residential, Commercial	X		X	X	X		X	**0.3**	**1.05**	**0.01**	**0.02**	**$69.34**	**$23,706**	X				**X**	Public Works	3-5 years
29	*Customer Surveys*	P	Residential	X		X		X		X	**1.3**	**3.95**	**0.02**	**0.07**	**$9.33**	**$11,998**	X				**X**	Administration	1-3 years

APPENDIX D

Activity Cost and Benefit Analysis

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. Wellington currently has AMR meters for their customers. The benefits of AMR meters include improved billing accuracy and a reduction in the time and expense to read and bill 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	47.89	0.5%	239,453
Residential	383.91	0.5%	1,919,568
Commercial	37.77	0.5%	188,859

Estimated Annual Water Savings	**2.35**	MG/yr
Estimated Savings over Planning Period	**23.5**	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	850	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$41,286.20**	/year

Material Costs

Unit Cost	**$300.00**	
Number of Meters/Year	**325**	
Annual Materials	**$97,479.00**	/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 assume the Town has already replaced 1,000 meters in its system.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Non-Revenue	N/A
Residential	$6.18
Commercial	$4.73

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	$2,551,784	/year
Estimated Average Annual Revenue with Water Savings	$2,539,025	/year
Estimated Annual Revenue Loss Related to Water Savings	$12,759	/year

Estimated Annual Cost	**$151,524**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$1,387,652**	
Estimated Total Cost over Planning Period Including Lost Revenue	**$1,515,241**	
Cost per 1000 Gallons Saved	**$64.54**	

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

Customer Category	0.5%

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue Water	47.89	239,453

Estimated Annual Water Savings	**0.24**	MG/yr
Estimated Savings over Planning Period	**2.4**	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	$48.58	/hour
Annual Staff Costs	$971.60	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$971.60**	/year

Notes:

Estimated costs for Staff to spend approximately 20 hours per year at $48.58/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	**$972**	/year
Estimated Total Cost over Planning Period	**$9,716**	
Cost per 1000 Gallons Saved	**$4.06**	

Advanced Metering Infrastructure Installation and Operations

The Town is currently investigating enhancing their metering system by installing Advanced Metering Infrastructure (AMI). 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	47.89	1.0%	478,906
Residential	383.91	6.0%	23,034,814
Commercial	37.77	3.0%	1,133,155

Estimated Annual Water Savings	**24.65**	MG/yr
Estimated Savings over Planning Period	**246.5**	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	212	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$10,321.55**	/year

Material Costs

Meter Cost (per unit)	**$300.00**	
Number of Meters/Year	**425**	
Annual Cost	**$127,479.00**	/year

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)
Non-Revenue	N/A
Residential	$6.18
Commercial	$4.73

Notes:

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	$2,551,784	/year
Estimated Average Annual Revenue with Water Savings	$2,404,034	/year
Estimated Annual Revenue Loss Related to Water Savings	$147,751	/year

Estimated Annual Cost	**$285,551**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$1,378,005**	
Estimated Total Cost over Planning Period Including Lost Revenue	**$2,855,511**	
Cost per 1000 Gallons Saved	**$11.59**	

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. Wellington is highly interested in completing a 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

Customer Category	**Avg. Annual Water Use over Planning Period** (MG)	**Annual Estimated Savings Rate**	***Estimated Annual Water Savings*** *(gal/yr)*
Residential	383.91	5.00%	19,195,678
Commercial	37.77	2.00%	755,437

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	**19.95**	MG/yr
Estimated Savings over Planning Period	**199.5**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	15	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$728.70	
Third Party Costs (Rate study)	$50,000.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$50,728.70**	/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	**$50,729**	/year
Estimated Total Cost over Planning Period	**$507,287**	
Cost per 1000 Gallons Saved	**$2.54**	

Tap Fees with Water Use Efficiency Incentives (Lot-based water dedication)

Wellington 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

Customer Category	0.19%

Category	**Avg. Annual Water Use over Planning Period** (MG)	*Estimated Annual Water Savings gallons/yr*
Residential	383.91	729,436
Commercial	37.77	71,766

Notes:

A conservative reduction of 0.19% of projected annual water use was assumed. 0.19% was calculated by a 3.7% growth rate multiplied by 5% savings (based on participation and overall savings).

This measure mainly impacts future residential developments.

Estimated Annual Water Savings	**0.80**	MG/yr
Estimated Savings over Planning Period	**8.0**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	30	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$1,457.40	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$1,457.40**	/year

Notes:

Estimated costs for Staff to spend approximately 30 hours per year at $48.58/hour to help coordinate within the service area.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

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	$2,551,784	/year
Estimated Average Annual Revenue with Water Savings	$2,546,936	/year
Estimated Annual Revenue Loss Related to Water Savings	**$4,848**	/year

Estimated Annual Cost	**$6,306**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$14,574**	
Revenue	**$63,058**	
Cost per 1000 Gallons Saved	**$7.87**	

Leak Detection and Repair Program

The Town could perform this program in-house or use an outside consultant (e.g., American Leak Detection). The last leak detection program was completed in 2013.

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

Estimated Water Savings

Customer Category	5.0%	
Annual Estimated Non-Revenue Water without Savings	47.89	MG/yr
Estimated Annual Water Savings	**2.39**	MG/yr
Estimated Savings over Planning Period	**23.9**	MG

Notes:

2013 - 2017 average system unaccounted leakage/loss rate is unknown because the data is not easily accessible.

Savings equals the current projected water usage of Non-Revenue water multiplied by the estimated savings rate. It was assumed Non-Revenue was 10%.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	25	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$1,214.50	
Third Party Costs (Leak Detection Consult)	$3,910.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$5,124.50**	/year

Notes:

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

Annual staff costs include coordination with consultants.

Estimated Annual Cost	**$5,125**	/year
Estimated Total Cost over Planning Period	**$51,245**	
Cost per 1000 Gallons Saved	**$2.14**	

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

Wellington 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

Customer Category	0.50%	

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue	47.89	239,453
Residential	383.91	1,919,568
Commercial	37.77	188,859
Irrigation	9.33	46,650

Notes:

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

Estimated Annual Water Savings	**2.39**	MG/yr
Estimated Savings over Planning Period	**23.9**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	90	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$4,372.20	
Third Party Costs	$50,000.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$54,372.20**	/year

Notes:

Estimated staff costs for Staff to spend an average of 90 hours per year at $48.58/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.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$5.74

Notes:

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

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

Estimated Average Annual Revenue without Water Savings	$2,472,710	/year
Estimated Average Annual Revenue with Water Savings	$2,460,347	/year
Estimated Annual Revenue Loss Related to Water Savings	**$12,364**	/year

Estimated Annual Cost	**$66,736**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$543,722**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$667,358**	
Cost per 1000 Gallons Saved	**$27.87**	

Drought Management Plan

Wellington plans to develop and update a Drought Management Plan 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

Customer Category	1.00%

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue	47.89	478,906
Residential	383.91	3,839,136
Commercial	37.77	377,718
Irrigation	9.33	93,301

Estimated Annual Water Savings	**4.79**	MG/yr
Estimated Savings over Planning Period	**47.9**	MG

Notes:

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

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	90	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$4,372.20	
Third Party Costs	$17,000.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$21,372.20**	/year

Notes:

Estimated staff costs for Staff to spend an average of 90 hours per year at $48.58/hour to help develop and implement the Plan for the Town. Third party costs include a consultant to aid staff in the development of the Plan and assumes the Town receives a CWCB grant.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of customer rates	$5.74

Notes:

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

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

Estimated Average Annual Revenue without Water Savings	$2,472,710	/year
Estimated Average Annual Revenue with Water Savings	$2,447,983	/year
Estimated Annual Revenue Loss Related to Water Savings	**$24,727**	/year

Estimated Annual Cost	**$46,099**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$213,722**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$460,993**	
Cost per 1000 Gallons Saved	**$9.63**	

Non-Potable Park Well Meters

Currently, the non-potable wells used for park irrigation in the Town of Wellington are not metered, making it difficult for Town staff to monitor usage and find leaks or problems within the system. Adding meters to these park wells will allow the Town to understand the non-potable water usage.

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

Estimated Water Savings

Customer Category	Estimated Future CU* (AF)	Estimated Future CU* gallons
Boxelder Trail Open Space	9.2	2,997,829
Wellington Community Park	13.8	4,496,744
Library Park	3.6	1,176,648
Centennial Park	0.8	262,310
Viewpointe Park	3.7	1,199,132
Wellville Park	2.4	794,425
Winick Park	0.7	224,837
Disc Golf Course	8.3	2,698,046
TOTAL	42.5	13,849,971

Notes:

**CU stands for consumptive use, or the amount of water used by the irrigated crop. In this case, it was assumed each park is covered with 20% turf which is considered the irrigated crop.*

Annual Estimated Savings Rate	5.0%	
Estimated Annual Water Savings	**692,499**	gallons/yr
Estimated Savings over Planning Period	**6,924,985**	gallons

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	n/a	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$502.91	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$502.91**	/year
Materials Costs		
Unit Cost	$500.00	/meter
Number of Meters	8	/year
Annual Materials Cost	**$4,000.00**	/year

Notes:

Costs include time to order and install all meters (assume 8 meters, one for each park). Estimate that each meter may take about 8 hours total of the staff member's time to order and install. Assume an additional 2.0 hr per month per well for data collection and processing.

The $500 unit cost includes meter testing, replacement costs, and labor.

Estimated Annual Cost	**$4,502.91**	/year
Estimated Total Cost over Planning Period Including Set-up	**$4,502.91**	
Cost per 1000 Gallons Saved	**$0.65**	

General Monitoring and Verification Activities and General Water Rates and Billing

Wellington participates in general water monitoring and verification activities which include frequent meter reading and tracking of use for large water customers. Wellington would like to expand their data gathering and monitoring activities in order to better understand all water uses and to be able to determine problems before they arise. Additionally, Wellington's water rates and billing encourage citizens to conserve water through volumetric billing with inclining/tiered rates and frequent billing.

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

Estimated Water Savings

Customer Category	0.25%

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Non-Revenue	47.89	119,727
Residential	383.91	959,784
Commercial	37.77	94,430
Irrigation	9.33	23,325

Estimated Annual Water Savings	**1.20**	MG/yr
Estimated Savings over Planning Period	**12.0**	MG

Notes:

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

The estimated production (without savings) equals the projected water usage plus an additional 10%.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	90	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$4,372.20	
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$4,372.20**	/year

Notes:

Estimated staff costs for Staff to spend an average of 90 hours per year at $48.58/hour to help develop and implement these activities for the Town.

Revenue losses are absorbed by the usage rates customers pay.

Estimated Annual Cost	**$4,372**	/year
Estimated Total Cost over Planning Period	**$43,722**	
Cost per 1000 Gallons Saved	**$3.65**	

Slow the Flow Residential Irrigation Audits

The Town would like to partner with Resource Central (ReCen) for residential irrigation audits. ReCen offers the "Slow the Flow" program which provides outdoor 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

Customer Category: 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	34,606	1,730	10

Estimated Annual Water Savings	**0.017**	MG/yr in Year 1
Estimated Savings over Planning Period	**1.0**	MG

Notes:

The outdoor use estimates are based on the following approximations for each customer category: Residential = 37%.

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	7.5	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$364**	/year
Third Party Costs		
Audit Cost	$120	
Number of Participants	10	/year
Annual Cost	**$1,200**	/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 = $120/audit

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$6.18

Note:

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

Estimated Average Annual Revenue without Water Savings	$11,766	/year
Estimated Average Annual Revenue with Water Savings	$11,178	/year
Annual Revenue Loss Related to Water Savings	**$588**	/year

Notes:

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

Estimated Annual Cost	**$2,153**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$15,644**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$21,526**	
Cost per 1000 Gallons Saved	**$22.62**	

Rebate Program and Retrofit Program (Toilet, Showerhead and Faucet)

The Town may offer rebates for high-efficiency toilets or bathroom fixtures. The purpose of a rebate is to encourage residents and businesses to convert to higher efficiency fixtures. The analysis below shows the cost for a toilet rebate program for simplicity.

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

Estimated Water Savings

Annual Estimated Water Use Per Tap without Savings - Indoor Rebate Program

Customer Category	**Avg. Annual Indoor Water Use Over the Planning Period** (gal/tap)	***Estimated Annual Water Savings*** *(gal/tap/yr)*	***Annual Program Participants*** *(taps)*
Residential	58,924	2,593	25
Commercial	158,297	6,965	5

Estimated Annual Water Savings	**0.10**	MG/yr
Estimated Savings over Planning Period	**5.48**	MG

Notes:

The indoor use estimates are based on the following approximations for each customer category: Residential = 63%, Commercial = 60%.

Savings based on Toilet Rebate program data provided by other water providers. The Town could partner with ReCen; ReCen offers the "Flush for the Future" toilet upgrade program. A minimum of 30 toilets is required. The number of participants is also appropriate for the population and demographics. A savings rate of 4.4% for indoor use was used.

Estimated Savings over Planning Period is calculated by compounding the estimated annual water savings per the total number of participants for each given year. As more participants utilize the replacements or rebates, more savings is realized.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	**90**	/year
Hourly Cost	$48.58	/hour
Annual Labor	$4,372.20	/year
Rebates		
Rebate Cost	$190.00	
Number of Participants	30	/year
Annual Rebate Cost	**$5,700.00**	

Notes:

Annual staff time is estimated at approximately 3 hours. per participant. This time includes water savings tracking.

Minimum participation is 30 toilets at $5,700. Additional toilets are $190 a piece. Costs for a rebate program may be lower, but savings is also likely to be lower.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

Notes:

The annual revenue loss was estimated based on current rates for the listed Town customer categories.

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

Estimated Average Annual Revenue without Water Savings	$70,662	/year
Estimated Average Annual Revenue with Water Savings	$67,553	/year
Annual Revenue Loss Related to Water Savings	**$3,109**	/year

Estimated Annual Cost	**$10,072**	/year
Cost per 1000 Gallons Saved	**$24.05**	

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

Customer Category	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	58,924	147	126
Commercial	158,297	396	14

Estimated Annual Water Savings	**0.02**	MG/yr
Estimated Savings over Planning Period	**1.33**	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.)	35	/year
Total:	$48.58	/hour
Annual Labor	**$1,700.30**	/year

Give Aways per Year

Give Away Kits per Year	**140**	/year
Materials Cost	**$2,653.00**	/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 be a general kit that includes several pieces, such as a showerhead and faucet aerator, for $12.45 per kit. Another kit focused more on outdoor savings would be $18.95 per kit.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

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	$687,179	/year
Estimated Average Annual Revenue with Water Savings	$685,461	/year
Annual Revenue Loss Related to Water Savings	**$1,718**	/year

Estimated Annual Cost	**$6,071**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$43,533**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$60,712.48**	
Cost per 1000 Gallons Saved	**$45.80**	

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

Customer Category	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	34,606	430	9
Commercial	102,919	430	1

Estimated Annual Water Savings	**0.00**	MG/yr
Estimated Savings over Planning Period	**0.2**	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.

Outdoor use is estimated at approximately 37% for residential water use and 39% for commercial water 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 requirement = approximately 2.3 AF/acre for turf = over 1,700 gal/garden. The estimated savings of 430 gal/garden for xeriscaping is conservative.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	2.5	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$121.45	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$121.45**	/year
Materials Costs		
Associated Costs	$65.55	/garden
Number of Participants	10	/year
Annual Materials	**$655.50**	/year

Notes:

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

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	$6.18
Commercial	$4.73

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	$13,265	/year
Estimated Average Annual Revenue with Water Savings	$13,122	/year
Annual Revenue Loss Related to Water Savings	**$143**	/year

Estimated Annual Cost	**$920** /year
Estimated Cost over Planning Period not including Lost Revenue	**$7,770**
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$9,197.50**
Cost per 1000 Gallons Saved	**$38.88**

Weekly and Time of Day Outdoor Watering Restrictions

Wellington has implemented mandatory and voluntary outdoor watering restrictions through resolutions in 2003, 2004, 2005 and 2006. The mandatory watering restrictions included limiting watering from April or May through mid-October from 5 P.M. to 10 A.M. The Town also includes suggested voluntary watering guidelines, such as watering only 2 days per week and turning off automatic watering systems after rain events.

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

Estimated Water Savings

Customer Category	0.20%	

Notes:

Outdoor use is estimated at approximately 37% for residential water use and 39% for commercial water use.

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Residential	142.05	284,096
Commercial	14.88	29,764

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

Estimated Annual Water Savings	**0.3**	MG/yr
Estimated Savings over Planning Period	**3.1**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	10	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$485.80	
Annual Labor	**$485.80**	/year

Notes:

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

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

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	$948,445	/year
Estimated Average Annual Revenue with Water Savings	$946,549	/year
Annual Revenue Loss Related to Water Savings	**$1,897**	/year

Estimated Annual Cost	**$2,383**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,858**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$23,827**	
Cost per 1000 Gallons Saved	**$7.59**	

Water Waste Ordinance

Wellington 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, limiting excess water from irrigation, etc. Additionally, Wellington Staff would like to implement ordinances for water waste associated with water main breaks on private property.

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

Estimated Water Savings

Customer Category	0.10%	

Notes:

This measure potentially affects all customer categories. 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)*
Residential	383.91	383,914
Commercial	37.77	37,772

Estimated Annual Water Savings	**0.42**	MG/yr
Estimated Savings over Planning Period	**4.2**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	10	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$485.80**	/year

Notes:

Estimated one time staff costs for Staff to spend approximately 10 hours at $48.58/hour to evaluate and enforce a new ordinance.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Weighted average of customer rates	$5.74

Notes:

The annual revenue loss was estimated based on a weighted average rate for all Town customer categories.

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

Estimated Average Annual Revenue without Water Savings	$2,419,184	/year
Estimated Average Annual Revenue with Water Savings	$2,416,765	/year
Estimated Annual Revenue Loss Related to Water Savings	**$2,419**	/year

Estimated Annual Cost	**$2,905**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,858**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$29,049.84**	
Cost per 1000 Gallons Saved	**$6.89**	

Landscape Design Ordinances and Restrictions

Wellington is interested in investigating some or all of the following landscape design ordinances: Rules and Regulations for Landscape Design/Installation, Non-potable System Requirements, 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

Customer Category

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (MG)	*Estimated Annual Water Savings (gal/yr)*
Residential	142.05	1,101,688
Commercial	14.88	116,299

Notes:

Outdoor use is estimated at approximately 37% for residential water use and 39% for commercial water use.
A conservative estimate of an average 5% savings of projected outdoor water usage per new tap was assumed. Most of these ordinances and restrictions would only be applied to new construction.

Estimated Average Annual Water Savings	**1.2**	MG/yr
Estimated Savings over Planning Period	**12.2**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	40	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$1,943.20	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$1,943.20**	/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)
Residential	$6.18
Commercial	$4.73

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	$147,201	/year
Estimated Average Annual Revenue with Water Savings	$139,841	/year
Annual Revenue Loss Related to Water Savings	**$7,360**	/year

Estimated Annual Cost	**$9,303**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$19,432**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$93,032**	
Cost per 1000 Gallons Saved	**$7.64**	

Commercial Water Wise Use Regulations

These may be applicable to Wellington 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

Customer Category	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	37.77	37,772

Estimated Annual Water Savings	**0.04**	MG/yr
Estimated Savings over Planning Period	**0.4**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	10	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$485.80**	/year

Notes:

Estimated one time staff costs for Staff to spend approximately 10 hours at $48.58/hour to evaluate and enforce a new ordinance.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Commercial	$4.73

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	$178,551	/year
Estimated Average Annual Revenue with Water Savings	$178,373	/year
Estimated Annual Revenue Loss Related to Water Savings	**$179**	/year

Estimated Annual Cost	**$664**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,858**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$6,643.51**	
Cost per 1000 Gallons Saved	**$17.59**	

Public Education Activities

Analysis of costs and benefits for educational activities are combined as shown below. Activities include Bill Stuffers, Newsletter, Newspaper Articles, Mass Mailings, Water Efficiency Page on Wellington's website, 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	383.91	2.00%	7,678,271
Commercial	37.77	0.75%	283,289

Estimated Annual Water Savings	8.0	MG/yr
Estimated Savings over Planning Period	**80**	MG

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	142	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$6,881.03**	/year
Materials Costs		
Unit Cost (cost of Bill Stuffers)	$0.25	/participant
Avg. Number of Participants (receiving bill stuffers) over Planning Period	4,249	/year
Annual Materials	**$1,062.33**	/year

Notes:

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

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

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	$2,551,784	/year
Estimated Average Annual Revenue with Water Savings	$2,502,981	/year
Estimated Annual Revenue Loss Related to Water Savings	**$48,804**	/year

Estimated Annual Cost	**$56,747**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$79,434**	
Estimated Total Cost over Planning Period Including Lost Revenue	**$567,471.54**	
Cost per 1000 Gallons Saved	**$7.13**	

Children's Water Fair or Festival

Wellington 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.

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

Estimated Water Savings

Customer Category	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	93,530	234	228

Estimated Annual Water Savings	**0.05**	MG/yr
Estimated Savings over Planning Period	**2.9**	MG

Notes:

This measure only affects residential water usage. It was asssumed 228 children participate in a water fair each year (one entire grade). Each year it is assumed 228 new children participate, so by year 10 of the planning period, a total of 2280 children have participated in the water fairs.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	10	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$485.80	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$485.80**	/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	$6.18

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	$725,031	/year
Estimated Average Annual Revenue with Water Savings	$723,218	/year
Annual Revenue Loss Related to Water Savings	**$1,813**	/year

Estimated Annual Cost	**$2,498.38**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$6,858.00**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$24,983.77**	
Cost per 1000 Gallons Saved	**$8.52**	

K-12 Teacher and Classroom Education Programs

The Town can develop a K-12 Teacher and Classroom Education Program.

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

Estimated Water Savings

Customer Category	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	93,530	234	228

Estimated Annual Water Savings	**0.05**	MG/yr
Estimated Savings over Planning Period	**2.9**	MG

Notes:

This measure only affects residential water usage. It was asssumed 228 students are enrolled in the program each year (estimated that one entire grade is enrolled).
Each year it is assumed 228 new students participate, so by year 10 of the planning period, a total of 2280 students have been through the program.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	5	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$242.90	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$242.90**	/year
Materials Costs		
Annual Materials Budget	$500	/year
Annual Materials	**$500.00**	/year

Notes:

Staff hours include time spent preparing (see 1x cost) and updating an education program, ordering and preparing educational materials, and training educators.

Material costs include a $500 annual budget for education materials costs.

For more information please see:
www.projectwet.org
www.watereducationcolorado.org

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$6.18

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	$725,031	/year
Estimated Average Annual Revenue with Water Savings	$723,218	/year
Annual Revenue Loss Related to Water Savings	**$1,813**	/year

Estimated Annual Cost	**$2,555.48**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$7,429.00**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$25,554.77**	
Cost per 1000 Gallons Saved	**$8.72**	

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 Colorado Water Conservancy District 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

Customer Category	2.00%

Notes:

Notes:

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

Estimate that approximately 37% of potable use is used outdoors for residential and 39% is for commercial.

Customer Category	Average Outdoor Water Use (gal/tap)	*Estimated Annual Water Savings (gal/tap)*
Residential	34,606	692
Commercial	102,919	2,058

Estimated Annual Water Savings	**3,138,602**	gallons/yr
Estimated Savings over Planning Period	**31,386,025**	gallons

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	8	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$388.64	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Website updates, etc.)	$97.16	/year
Annual Labor	**$485.80**	/year

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 8 hours of program set-up by Town Staff.

Over the planning period, there are a projected average total of 4249 taps.

One Time Labor and Material Costs	
One Time Materials Cost	$0.00
One Time Labor Costs	$582.96
One Time Labor/Material Cost	**$582.96**

Water Rates (2008)

Rate Category	**Current Rates** (per 1000 gallons)
Residential	$6.18
Commercial	$4.73

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	**$544.10**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$5,440.96**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$195,130.05**	
Cost per 1000 Gallons Saved	**$6.22**	

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.

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

Estimated Water Savings

Customer Category	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	34,606	52	90
Commercial	102,919	154	10

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.

It is estimated that approximately 37% of residential customer use and 39% of commercial customer use is outdoor use.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	20	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$971.60	
Third Party Costs	$1,000.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$1,971.60**	/year
Materials Costs		
Annual Materials Budget	$200	/year
Annual Materials	**$200.00**	/year

Notes:

Some staff time is associated with communication and coordination of volunteer efforts for the local Xeriscape Garden. It's anticipated the garden will be run through volunteer efforts and donations.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

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	$132,651	/year
Estimated Average Annual Revenue with Water Savings	$132,452	/year
Annual Revenue Loss Related to Water Savings	**$199**	/year

Estimated Annual Cost	**$2,370.58**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$21,716.00**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$23,705.76**	
Cost per 1000 Gallons Saved	**$69.34**	

Customer Surveys

Wellington would like to participate in Customer Surveys or Evaluations. Customer Surveys collect feedback and provide educational materials on water savings opportunities and water efficiency programs at home. These can be targeted at high water use customers to maximize water savings for the Town.

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

Estimated Water Savings

Customer Category	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	93,530	234	100

Estimated Annual Water Savings	**0.023**	MG/yr
Estimated Savings over Planning Period	**1.3**	MG

Notes:

This measure only affects residential water usage. It was asssumed 100 people participate in annual customer surveys. Each year it is assumed 100 new people participate, so by year 10 of the planning period, a total of 1000 residents have participated in the customer surveys.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	8	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$404.83	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$404.83**	/year
Materials Costs		
Annual Materials Budget	$0	/year
Annual Materials	**$0.00**	/year

Notes:

Staff hours include time preparing the customer surveys, sending them to residents and collecting responses. It was assumed the Town would complete this annually.

Material costs may include an annual budget for educational materials; however, no additional budget was included for the purpose of this Plan.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	$6.18

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	$317,996	/year
Estimated Average Annual Revenue with Water Savings	$317,201	/year
Annual Revenue Loss Related to Water Savings	**$795**	/year

Estimated Annual Cost	**$1,199.82**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,048.33**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$11,998.23**	
Cost per 1000 Gallons Saved	**$9.33**	

Removal of Phreatophytes (Not Selected)

This activity will evaluate removal of phreatophytes which is defined as a plant with a deep root system that draws its water supply from near the water table.

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

Estimated Water Savings

Customer Category — ate Per Phreatophyte: 85.0%

Customer Category	Avg. Annual Outdoor Water Use Over the Planning Period (gal/tap)	*Estimated Annual Water Savings (gal/yr)*	*Annual Phreatophytes to Remove (trees)*
Irrigation	n/a	8,504	1

Estimated Annual Water Savings	**0.009**	MG/yr in Year 1
Estimated Savings over Planning Period	**0.5**	MG

Notes:

The water use estimates assume an average of 20,000 gallons of water per year are needed for a cottonwood tree. It assumes after the tree is removed, 100 square feet of turf will be installed to take the tree's place.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	0.75	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$36**	/year
Third Party Costs		
Tree removal and turf costs	$1,424.00	
Number of Phreatophytes	1	/year
Annual Cost	**$1,424.00**	/year

Notes:

Costs include staff time for implementing (approximately 45 min. per phreatophyte) to organize contractor for tree removal.

Third Party Costs include tree removal services and cost to re-turf. Estimated cost to remove one tree and re-turf = $1424.

Estimated Annual Cost	**$1,460**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$14,604**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$14,604**	
Cost per 1000 Gallons Saved	**$31.22**	

Outdoor Irrigation Controllers and Rain Sensors - Giveaways or Rebates (Not Selected)

Outdoor Irrigation Controllers, Rain Sensors and possibly Winds Sensors could be made available to Wellington water users for free or for a reduced cost. This could also be adapted to serve as a rebate program. 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

Customer Category	5.00%
Commercial Annual Estimated Savings Rate	0.25%

	Avg. Annual Outdoor Water Use Over the Planning Period (gal/tap)	***Estimated Annual Water Savings*** *(gal/tap/yr)*	***Annual Program Participants*** *(taps)*
Residential	34,606	1,730	45
Commercial	102,919	257	5

Estimated Annual Water Savings	**0.08**	MG/yr
Estimated Savings over Planning Period	**4.35**	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.)	50	/year
Hourly Cost	$48.58	/hour
Annual Labor	**$2,429.00**	/year

Give Aways (or Rebates) per Year

Give Aways (or Rebates) per Year	**50**	/year
Cost covered by the Town	**100%**	
Materials Cost	**$7,000.00**	/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.
The Town may also provide rebates to citizens for the purchase of controllers and sensors.
It was assumed the Town would offer 50 controllers and 50 sensors per year.

Water Rates

Rate Category	**Current Rates** (per 1,000 gals)
Residential	*6.18*
Commercial	*4.73*

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	$153,897	/year
Estimated Average Annual Revenue with Water Savings	$146,202	/year
Annual Revenue Loss Related to Water Savings	**$7,695**	/year

Estimated Annual Cost	**$17,124**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$94,290**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$171,238.48**	
Cost per 1000 Gallons Saved	**$39.34**	

Landscape Design (Xeriscape) and Maintenance Classes (Not Selected)

Some Landscape Design and Xeriscape classes provide a number of venues in which participants can learn more about xeriscaping as well as other gardening techniques. Wellington could advertise the classes and post the times and dates when the events will take place. Wellington may be able to partner with another entity on this activity.

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

Estimated Water Savings

Customer Category: 0.25%

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	34,606	87	18
Commercial	102,919	257	2

Estimated Annual Water Savings	**0.002**	MG/yr
Estimated Savings over Planning Period	**0.1**	MG

Notes:

Similar to the Demonstration Garden itself, this measure affects projected outdoor water usage for the listed Customer Categories. It is estimated that approximately 37% of total customer use is outdoor use.

Costs

Total Cost to Water Provider

Labor Costs		
Staff Hours	5	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$242.90	
Third Party Costs	$100.00	/year
Evaluation and Follow-up Costs (Labor/Consultant)	$0.00	/year
Annual Labor	**$342.90**	/year
Materials Costs		
Annual Materials Budget	$100	/year
Annual Materials	**$100.00**	/year

Notes:

Staff time is estimated at approximately 15 minutes per participant for scheduling and coordination. Much of the garden will be run through volunteer efforts including the classes.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Residential	$6.18
Commercial	$4.73

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	$26,461	/year
Estimated Average Annual Revenue with Water Savings	$26,395	/year
Annual Revenue Loss Related to Water Savings	**$66**	/year

Estimated Annual Cost	**$509**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$4,429**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$5,091**	
Cost per 1000 Gallons Saved	**$44.84**	

Citizen Advisory Board (Not Selected)

Wellington may organize a Citizen Advisory Board to help with public education campaigns, water efficiency planning measures and public outreach and feedback. This board can provide feedback to staff regarding the potential public acceptance of new programs.

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

Estimated Water Savings

Customer Category	0.10%

Notes:
This measure has the potential to improve all categories. This measure also potentially overlaps with other efficiency measures and programs, therefore a conservative reduction of 0.1% of projected annual water use was assumed.

Category	Avg. Annual Water Use over Planning Period (MG)	*Estimated Annual Water Savings gallons/yr*
Residential	383.91	383,914
Commercial	37.77	37,772

Estimated Annual Water Savings	**0.42**	MG/yr
Estimated Savings over Planning Period	**4.2**	MG

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	24	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$1,165.92	
Third Party Costs	$0.00	/year
Evaluation and Follow-up Costs	$0.00	/year
Annual Labor	**$1,165.92**	/year

Notes:
Estimated staff costs to conduct 4 citizen advisory board meetings per year with 2 staff members in attendance. It assumes each meeting is 1 hour long plus an additional 2 hours of preparation and follow-up per staff member.

Water Rates

Rate Category	Current Rates (per 1,000 gals)
Weighted average of all customer rates	$5.74

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	$2,472,710.19	/year
Estimated Average Annual Revenue with Water Savings	$2,470,237.48	/year
Estimated Annual Revenue Loss Related to Water Savings	**$2,472.71**	/year

Estimated Annual Cost	**$3,638.63**	/year
Estimated Cost Over Planning Period not including Lost Revenue	**$11,659.20**	
Estimated Total Cost Over Planning Period Including Lost Revenue	**$36,386.30**	
Cost per 1000 Gallons Saved	**$8.63**	

Customer Water Use Workshops (Not Selected)

Wellington may participate in Customer Water Use Workshops and provide educational materials and information to residents about water efficiency and conservation.

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

Estimated Water Savings

Customer Category	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	93,530	234	20

Estimated Annual Water Savings	**0.005**	MG/yr
Estimated Savings over Planning Period	**0.3**	MG

Notes:

This measure only affects residential water usage. It was asssumed 10 people participate in each water use workshop per year and there are 2 workshops per year for a total of 20 participants annually.
Each year it is assumed 20 new people participate, so by year 10 of the planning period, a total of 200 residents have participated in the water use workshops.

Costs

Total Cost to Water Provider

Labor Costs

Staff Hours	20	/year
Hourly Cost	$48.58	/hour
Annual Staff Costs	$971.60	
Annual Labor	**$971.60**	/year

Materials Costs

Annual Materials Budget	$200	/year
Annual Materials	**$200.00**	/year

Notes:

Staff hours include time participating in water use workshops. It was assumed the Town would participate in 2 workshops 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	$6.18

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	$63,599	/year
Estimated Average Annual Revenue with Water Savings	$63,440	/year
Annual Revenue Loss Related to Water Savings	**$159**	/year

Estimated Annual Cost	**$1,330.60**	/year
Estimated Cost over Planning Period not including Lost Revenue	**$11,716.00**	
Estimated Total Cost over Planning Period Including Set-up and Lost Revenue	**$13,305.98**	
Cost per 1000 Gallons Saved	**$51.73**	

APPENDIX E

Public Comments and Response

Account #: FTC-1000347587

FORT·COLLINS
COLORADOAN

Invoice Text

TOWN OF WELLINGTON NOTICE OF DRAFT MUNICIPAL WAT

STATE OF COLORADO)
) ss: AFFIDAVIT OF PUBLICATION
COUNTY OF LARIMER)

TOWN OF WELLINGTON
3735 CLEVELAND AVE

WELLINGTON CO 80549

TOWN OF WELLINGTON NOTICE OF DRAFT MUNICIPAL WATER EFFICIENCY PLAN
The Town of Wellington (Town or Wellington) 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 and businesses; 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. Wellington shall have a 60-day public review period beginning the date of this notice, February 27, 2019 through April 29, 2019. A complete copy is on file and available for public inspection at Wellington Town Hall, 3735 Cleveland Avenue Wellington, Colorado, during regular business hours. The Town will also post the plan on its website at https ://www.townofwellington.com.
All written comments are due to Bob Gowing, Public Works Director, prior to April 29, 2019 at:
Town of Wellington Public Works Director, Bob Gowing 3735 Cleveland Avenue PO Box 127 Wellington, CO 80549

0003405937
The Coloradoan
Feb 27, 2019

I, being duly sworn, deposes and says that said is the legal clerk of the Fort Collins Coloradoan: that the same is a daily newspaper of general circulation and printed and published in the City of Fort Collins, in said county and state: that the notice or advertisement, of which the annexed is a true copy, has been published in said daily newspaper and that the notice was published in the regular and entire issue of every number of said newspaper during the period and time of publication of said notice, and in the newspaper proper and not in a supplement thereof; that the publication of said notice was contained in the issue of said newspaper on

02/27/19

that said Fort Collins Coloradoan has been published continuously and uninterruptedly during the period of at least six months next prior to the first publication of said notice or advertisement above referred to; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the Act of March 3, 1879, or any amendments thereof; and that said newspaper is a daily newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

Legal Clerk

Subscribed and sworn to before me, within the County of Brown, State of Wisconsin this 27th of February 2019.

Notary Public

11/9/22

Notary Expires

KAZOUA YANG
NOTARY PUBLIC
STATE OF WISCONSIN

Legal No. 0003405937

Affidavit Prepared
Wednesday, February 27, 2019 9:21 am

Ad#:0003405937
P O : Water Efficiency Plan
# of Affidavits :1

APPENDIX F

Colorado Water Conservation Board Cover Letter and Approval

RESOLUTION 15-2019

A RESOLUTION OF THE BOARD OF TRUSTEES OF THE TOWN OF WELLINGTON, COLORADO, APPROVING THE 2018 WELLINGTON WATER EFFICIENCY PLAN.

WHEREAS, the Town of Wellington (the "Town"), in the County of Larimer, and the State of Colorado (the "State"), is a political subdivision duly organized and existing pursuant to the constitution and laws of the State, and

WHEREAS, the Board of Trustees of the Town (the "Board") is the governing body of the Town and each of its members has been duly elected and qualified; and

WHEREAS, Wellington is highly committed to optimizing its water supplies and system through practical water efficiency activities; and

WHEREAS, the 2018 Wellington Water Efficiency Plan will aid the Town in developing water efficiency activities that complement its existing comprehensive master planning activities and community goals; and

WHEREAS, the 2018 Wellington Water Efficiency Plan develops short-term and long-term goals to further improve Wellington' s water conservation ideals.

NOW, THERFORE, BE IT RESOLVED that the Board of Trustees approves the 2018 Wellington Water Efficiency Plan attached hereto and made part of this resolution.

APPROVED AND ADOPTED by the Board of Trustees of the Town on this 11th day of June 2019.

Troy Hamman, Mayor

ATTEST:

Ed Cannon, Town Administrator/Clerk