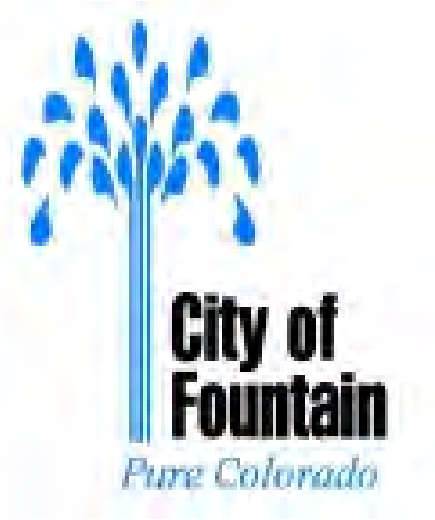

WATER CONSERVATION PLAN
2009 UPDATE and REVISION

March 2009

Prepared by: W. W. Wheeler and Associates, Inc.
Water Resources Engineers
3700 South Inca Street
Englewood, Colorado 80110

Prepared for: City of Fountain, Colorado
116 South Main Street
Fountain, Colorado 80817
conserve@fountainutilities.org

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EXECUTIVE SUMMARY

The City of Fountain presently supplies over 2,500 acre-feet of water per year to 7,022 customers. Fountain's water distribution system is supplied from Fryingpan-Arkansas (Fry-Ark) Project water and other fully consumable water delivered through the Fountain Valley Authority (FVA) Pipeline, five wells located in the alluvial aquifer of Fountain Creek, and from groundwater pumped from the Widefield Aquifer. Fountain also utilizes wells outside of its distribution system to meet the demands of selected customers. Fountain stores its water supplies in Keeton Reservoir, Pueblo Reservoir, Big Johnson Reservoir, and in its distribution system tanks.

On August 30, 2001 the City adopted a water conservation plan in accordance with the Water Conservation Act of 1991. As described in the final section of this report, Fountain has reduced its average system-wide demand by approximately 12 percent since this initial plan was adopted. This level of savings, equivalent to approximately 340 acre-feet per year at the present time, demonstrates Fountain's dedication to water conservation since the plan adoption.

Fountain's 2006 Water Master Plan (Master Plan) defined the integral role of water conservation in Fountain's overall water supply planning, and it became necessary to update the City's Water Conservation Plan to achieve additional water savings. This report has been prepared to update Fountain's 2001 Water Conservation Plan by documenting all of the City's present and proposed water conservation activities. The updated plan includes the water efficiency measures and programs from the City's initial plan, and it summarizes the water conservation activities that have been implemented after the initial plan was adopted. In addition, the updated plan incorporates the water conservation measures and programs that the City has proposed for future implementation. Changes to the City's water supply system and water rights operations (since development of the initial plan) were also included in the updated plan. The updated plan satisfies the requirements of Section 37-60-126 C.R.S., as amended by the Water Conservation Act of 2004.

ROLE OF WATER CONSERVATION IN WATER SUPPLY PLANNING

Water conservation planning has become critical to the City in recent years because of its projected high growth. The role of water conservation in the City's overall water supply planning was defined in Fountain's 2006 Water Master Plan. The Master Plan evaluated future capital and operation and maintenance costs if the City reduces its demand through water conservation. Based on this evaluation, a water conservation element was included in the recommended water supply alternative.

To meet the Master Plan recommendations, the City's Water Conservation Plan must produce savings of at least 20 percent of its projected demands (without water conservation). The recommended 20-percent demand reduction is cumulative and the savings already realized under Fountain's existing water conservation activities count toward this amount. The City has already reduced its average system-wide demand by approximately 12 percent since the initial Water Conservation Plan was adopted. As a result, Fountain needs to achieve an additional 8 percent demand reduction to reach the level of water conservation recommended in the Master Plan.

In response to this information, the City has reviewed its existing and proposed water conservation policies and has prepared the updated Water Conservation Plan presented in this report. The City has also recently hired a new staff member (Conservation and Supply Manager) who is responsible for the implementation, monitoring, review, and revision of the Water Conservation Plan.

It is estimated that the savings from the updated plan will reduce Fountain's system-wide demand (including system losses) by an additional 181 acre-feet per year at the 5-year planning horizon (year 2013). This amount is approximately 3 percent of the projected annual demand of 7,214 acre-feet in year 2013 (without water conservation). This savings estimate is in addition to the savings that have already been achieved by the City's existing water conservation efforts. Fountain's total demand reduction under the updated plan is estimated to equal 15 percent by year 2013, which includes 12 percent at the present level of savings plus 3 percent attributable to additional future savings.

This amount is 5 percent less that that the 20-percent demand reduction recommended in the Master Plan, so the City will implement additional water conservation measures to further increase its savings when the plan is next updated.

REQUIRED MEASURES AND PROGRAMS

The updated Water Conservation Plan will include the water-saving measures and programs that are listed below and summarized in Table Summary-1. The Water Conservation Act of 2004 requires these measures and programs to be considered in the development of all water conservation plans.

For each measure and program, one or more specific goals have been selected and are summarized in the following paragraphs. The main body of this report presents a detailed description of each individual goal, the metric employed to assess achievement of the goal, a schedule for implementation of the goal, the estimated savings expected by implementing the goal, and the monitoring, review, and revision requirements for the goal.

Water Efficient Fixtures and Appliances

Goal 1: All plumbing fixtures installed in the City must meet the Pikes Peak Regional Building Code and the 2003 International Plumbing Code. This requirement applies to all new homes and businesses, as well as existing buildings that replace fixtures. While the City recognizes that this requirement may not achieve the status of a true “goal”, the water savings were quantified.

Goal 2: The City will retrofit all municipal buildings with water efficient urinals and will include water efficient urinals in all new municipal buildings.

Low Water Use Landscapes and Efficient Irrigation

Goal 1: The *Recommended Plant List of the City of Fountain* is applied in the review of landscape designs for new and renovated commercial, institutional, industrial, and multi-family developments. Although the use of low water requiring plants is not mandatory for single-family dwellings by City code, Fountain will continue to encourage such use.

Goal 2: For applications that require turf grass, Fountain will continue to encourage the use of fine-bladed, turf type, tall fescue, fine fescue, or other similar type of turf grass for general and lawn use. This is a voluntary standard and is applied on a case-by case basis.

Goal 3: The City provides a Xeriscape brochure both in hard copy and on its website and the Utility Department's newsletter (UtiliNews) conducts an annual Xeriscape contest. Fountain has also partially or completely funded several example Xeriscape projects around the City. The City will continue to provide Xeriscape information and provide funding for example projects.

Goal 4: The City will continue to sponsor the "Water Returns" project, where citizens attend seminars addressing water-saving landscape design methods and plants and revisions to their irrigation practices.

Water-Efficient Industrial and Commercial Water-Using Processes

Goal 1: By monitoring existing accounts and reviewing design proposals for new industrial, institutional, and commercial areas, the City will address water conservation opportunities for industrial, institutional, and commercial users on an individual basis. Such opportunities may include (but are not limited to) low flow interior fixtures, efficient coolant systems, efficient food service equipment, and landscape efficiency.

Water Reuse Systems

Goal 1: Fountain will continue to reuse its surplus return flows associated with its FVA Pipeline deliveries by delivering this water into its Excess Capacity account in Pueblo Reservoir and back through the FVA Pipeline.

Distribution System Leak Identification and Repair

Goal 1: The City will implement a leak detection program in 2009 that will include monitoring the difference between the water delivered into the distribution system and the water sold. A regular part of the distribution system will be scheduled for audio leak detection every year.

Goal 2: The City will continue replacing older sections of asbestos-cement and cast iron mains with PVC mains.

Goal 3: Fountain replaces between 10 and 20 fire hydrants every year, between 20 and 60 saddle taps each year and changes out between 10 and 20 commercial water meters every year. The City will continue this effort.

Goal 4: Fountain regularly reviews and updates its Water Distribution System Design and Construction Specifications Manual. All new developments and City-funded projects are required to incorporate the latest specifications, which address protection of the system from corrosive soils in some areas of Fountain.

Dissemination of Information

Goal 1: The City will continue to provide water conservation information to all its constituents through the Utility Department's newsletter (UtiliNews).

Goal 2: The City will continue to provide water conservation information on its website.

Goal 3: The City provides hard copy brochures illustrating water conservation methods and programs, including the City's Xeriscape brochure, the Fountain Branch of the Pike's Peak Library District's Xeriscape garden brochure and the Southeast Colorado Water Conservation District's lawn irrigation brochure. Fountain will continue to distribute these brochures as outreach opportunities arise.

Goal 4: The City of Fountain senior staff meets monthly with the Housing and Building Association of Colorado Springs (HBA). Fountain will discuss the adoption, management and continuous improvement of its water conservation plan at these meetings and will encourage participation and comments from the HBA.

Water Rate Structures and Billing Systems

Goal 1: Fountain uses an inclining block rate structure designed to promote water conservation. The City staff will continue to review its water rates and tap fees on an annual basis and recommend revisions to the City Council.

Goal 2: Fountain will study, formulate, and adopt a hardship schedule so that qualifying potential customers may connect to the water system without the large tap fee as a prerequisite.

Goal 3: The City of Fountain currently sells potable water for non-potable uses, including construction water for soil compaction and as a dust palliative. The City will design, construct, and operate a well that will be used as a construction tanker filling facility, which will allow some of the potable water used for construction to be substituted with non-potable water.

Regulatory Measures

Goal 1: Currently, City Code Section 17.370 requires an intense level of site landscaping. This goal is to adopt a change in the City Code that addresses sustainable landscaping as a land use regulation.

Goal 2: The City will work with the HBA to implement additional water saving elements into development design and construction codes.

Goal 3: The City will prepare and introduce a water waste ordinance for City Council consideration. Adoption will require the consent and approval of a majority of the City Council.

Incentives to Implement Water Conservation

Goal 1: Fountain will adopt and implement an incentive program for water conservation. City Council has instructed Fountain Utilities to include the incentives program in the planning for the 2009 budget.

Goal 2: Fountain Utilities has created a senior staff position of Conservation and Supply Manager, who is charged with continuing the administration of the water conservation plan. This person is also charged with operating the incentives program, as it is adopted. The City has filled this position.

OTHER MEASURES AND PROGRAMS

In addition to the plan elements required under the Water Conservation Act of 2004, the City has implemented other measures and programs to conserve its water supplies. These measures and programs are listed below and summarized in Table Summary-2.

As with the *Required Measures and Programs* section of this executive summary, the individual goals for each measure and program are summarized in the following paragraphs. The main body of this report presents a detailed description of each individual goal, the metric employed to assess achievement of the goal, a schedule for implementation of the goal, the estimated savings expected by implementing the goal, and the monitoring, review, and revision requirements for the goal.

Non-Potable Supplies

Goal 1: The City of Fountain currently sells potable water for non-potable uses, including construction water for soil compaction and as a dust palliative. The City will design, construct, and operate a well that will be used as a construction tanker filling facility, which will allow some of the potable water used for construction to be substituted with non-potable water.

Goal 2: The City has agreed to provide augmentation water to support non-potable irrigation wells at Aragon Elementary School and at two metro districts. By providing augmentation water and managing the fillings and permitting for these wells, the City decreases the demand for its potable water supplies. The City will continue to look for opportunities to substitute non-potable water for potable water in irrigation applications.

Keeton Reservoir Delivery Pipeline

Goal 1: A pipeline system delivers water from Keeton Reservoir to Fountain Creek for augmentation purposes. This pipeline conserves Keeton Reservoir releases and prevents this water from being consumed through evaporation and evapotranspiration in the natural channel along Little Fountain Creek. Fountain will continue to maintain this delivery system and continue its operation.

ADDITIONAL INFORMATION

Time Period for Conservation Plan Review and Update - Fountain will review and update the Water Conservation Plan on a regular basis not to exceed every two years. The plan also includes specific requirements for the City to monitor, review, and revise (as appropriate) each individual goal associated with the plan's measures and programs. All reviews and updates of the Water Conservation Plan will be a primary assignment of the City's Conservation and Supply Manger.

Development, Implementation, Monitoring, Review and Revision - The updated plan includes the water efficiency measures and programs in the City's initial plan along with any additional water conservation activities that City has since implemented. In addition, the updated plan incorporates the water conservation measures and programs that the City has proposed to further increase its savings. The plan development also evaluated changes to the City's water supply system and water rights operations since the initial plan was completed.

As required by statute, the updated plan was made available for public review and comment over a sixty-day period. All public comments were considered in finalizing this report. The updated Water Conservation Plan was adopted by City Council on March 10, 2009.

The implementation schedule and the monitoring, review, and revision requirements of each goal associated with the measures and programs in the Water Conservation Plan have been individually described in the main body of this report. This information is also summarized in Table Summary-1 and Table Summary-2. In addition, the City shall track the overall efficiency of the plan by monitoring the per capita water use of its customer sectors on an annual basis. As mentioned previously, the City's new staff member (Conservation and Supply Manager) is responsible for the monitoring, review, and revision of this plan.

Present and Projected Savings – The amount of water that Fountain has saved since adopting the initial Water Conservation Plan has been estimated by comparing the City's

present water use with its use prior to implementation of water conservation activities. As shown in Table Savings-1, the City's present water conservation measures have reduced its average gross demand (including system losses) from 145 gallons per capita per day (gpcd) to approximately 128 gpcd, a savings of 17 gpcd. This level of savings is approximately 12 percent of the total water demand without water conservation (145 gpcd) and is equivalent to approximately 340 acre-feet per year for the 2003 through 2007 average population of 17,875 people.

As described in the main body of this report, the savings attributable to each goal associated with the updated plan's measures and programs was estimated. Savings estimates were performed for a 5-year planning horizon, which includes years 2009 through 2013. Table Savings-2 summarizes the estimated additional savings for each goal in the plan. The annual estimates in this table are cumulative over the 2009 through 2013 period, but these values do not include savings that have already been achieved in prior years. For example, the savings for 2009 includes the additional annual savings achieved during 2009 only, while the savings achieved during 2010 equals the 2009 estimate plus any additional annual savings realized in 2010.

As shown in Table Savings-2, approximately 181 acre-feet per year of additional savings are estimated by year 2013. This amount represents the overall reduction to Fountain's gross demand (including system losses) and is in addition to the present savings that have already been achieved. This additional savings is the overall goal of the updated Water Conservation Plan, and it represents approximately 3 percent of the projected annual demand of 7,214 acre-feet in year 2013 (without water conservation).

As indicated in Table Savings-3, Fountain's total demand reduction under the updated plan is estimated to equal 15 percent by year 2013. This amount includes a 12-percent reduction at the present level of savings plus a 3-percent reduction attributable to additional future savings. This savings estimate is 5 percent less than the 20-percent demand reduction recommended in the Master Plan. Since the estimated savings (and overall goal) of the updated plan is not anticipated to completely satisfy the water conservation element of the Master Plan over the next 5 years, the City will implement

additional water conservation measures to further increase its savings when the plan is next updated.

INTRODUCTION

The City of Fountain supplies over 2,500 acre-feet of water per year to both residential and commercial entities. Fountain serves 7,022 customers at this time, and this number is expected to grow dramatically in the future. A map of Fountain's existing and future service area is located in Appendix A.

The following table summarizes Fountain's total water deliveries for the past five years along with the estimated population of its service area.

Table Intro-1
City of Fountain Water Deliveries and Service Area Population

Year	Water Delivery (acre-ft)	Estimated Population
2003	2,713	15,771
2004	2,376	16,550
2005	2,446	17,689
2006	2,759	19,085
2007	2,550	20,278
Average	2,569	17,875

The water deliveries listed above equal the total gross diversions into Fountain's distribution system and include system losses. The estimated population of Fountain's service area is based on annual population estimates from the Colorado Department of Local Affairs. According to Fountain's 2006 Water Master Plan, there are approximately 1,800 people that live within the City limits but are outside its water service area. As a result, the City's estimated population (provided by the Department of Local Affairs) was reduced by 1,800 people to obtain the population estimates listed above.

WATER USE BY SECTOR

The City of Fountain Utilities Customer Service Department is the billing and accounting agency within the City Utilities that tracks all metered water usage. The accounting presented in Table Sector–1 subdivides the water sales into five Sectors: Residential; Commercial/Industrial/Institutional; Construction Water; Farmer's Hydrant; and Municipal. The definition of each Sector is as follows:

Residential: The Residential Sector is by far the largest Sector in both number of customers and amount of water delivered, with approximately 94% of the total number of customers and up to 75% of the total amount of water billed. This Sector sums all forms of customers in residences, including the City Housing as well as private housing, with both rental and owner-occupied dwellings in both single-family and multi-family configurations.

Commercial/Industrial/Institutional: The actual differences between the uses within this Sector are not tracked differentially by the Customer Service Department, so the uses range from traditional Commercial uses (stores, gas stations, restaurants) to Industrial customers (metal fabrication, wooden truss assembly plant) to Institutional (School District 8, School District 3, Fountain Sanitation District). The City of Fountain has 35 additional customer taps, so these are not included in the compilation under the Commercial/Industrial/Institutional Sector.

Construction Water: The City sells Construction Water to Contractors using hydrant meters. This usage varies with the intensity of the construction activities. These activities include using the water as a dust palliative and as water for compaction of engineered soils in road bases. The summation in Table Sector-1 shows the variability in the delivery of this water sector. The number of Customers is the maximum number of Construction Water Customers during any single month in that calendar year.

Farmer's Hydrant: The City sells water from a metered tap near City Hall to residents of the City who do not have access to the water distribution system. This usage and the volume delivered have steadily been declining as the water distribution network has expanded in the past several years.

Municipal Use: The City maintains 35 connections for the municipal buildings, parks and irrigation for landscaped streetscapes. These include municipal buildings such as City Hall, Police and Fire Stations and the Public Works Campus buildings. City of Fountain Housing Authority buildings are not included in this accounting; they are combined with all other Residential buildings in the Residential Sector.

The history of use in each of these Sectors over the past five years is summarized in Table Sector-1. Table Sector-1 is the accounting for all of the water used and metered through the Customer Service Department. This is a lesser volume of water than reported in Table Into-1, since that reports the volume of water delivered to the City from all sources of supply. The variance is the loss in the system.

Although the number of customers and accounting of delivered water in 2008 is not yet finalized, the number of customers reported in October 2008 is 7,022; with 6,692

Residential Customers and 283 Commercial/Institutional/Industrial Customers (the Municipal Customer count is unchanged at 35).

WATER SUPPLIES AND FACILITIES

Fountain's water distribution system is supplied from Fryingpan-Arkansas (Fry-Ark) Project or other fully consumable water delivered through the Fountain Valley Authority (FVA) Pipeline, five wells located in the alluvial aquifer of Fountain Creek, and from groundwater pumped from the Widefield Aquifer. Fry-Ark Project and other fully consumable water is stored in Pueblo Reservoir and pumped to Fountain through the FVA Pipeline. Fountain receives a contractual delivery of approximately 2,000 acre-feet per year through the pipeline. This water is used directly in Fountain's water system for municipal purposes as a base-load supply. Water is delivered throughout the year, but at a somewhat higher delivery rate during summer than in winter. In 2008, water was delivered through the FVA Pipeline (to Fountain) at a peak daily rate of approximately 3.5 million gallons per day (MGD).

The five municipal wells in the Fountain Creek alluvial aquifer have a total combined capacity of about 4.3 MGD. Fountain also receives water pumped from the Widefield Aquifer pursuant its lease of the Venetucci wells and water rights. Fountain's deliveries from this source are limited under the terms of the lease agreement and the Widefield Aquifer Stipulation that governs municipal pumping within the Widefield Aquifer. Deliveries to Fountain are presently limited to approximately 1,290 acre-feet per year, but future deliveries may be reduced based on the use of the Venetucci wells by other parties to the lease. Fountain, Security Water District, and Widefield Water and Sanitation District have jointly re-drilled the Venetucci wells and agreed to improve their water distribution infrastructure to maximize the yield from this water supply source.

The City of Fountain is participating in the development of the Southern Delivery System (SDS) Pipeline. When complete, the pipeline will deliver additional water from Pueblo Reservoir to the distribution systems of Colorado Springs, Security, and Fountain. Fountain's SDS participation will provide pipeline capacity for an annual delivery of 2,500 acre-feet per year.

Fountain also utilizes wells outside of its distribution system to meet the demands of selected customers in its service area. Fountain owns two existing wells that provide a water supply to Pikes Peak International Speedway. Under an agreement with Fountain-Fort Carson School District No. 8, Fountain provides augmentation water to support pumping of the Aragon Well that irrigates grounds at the Aragon Elementary School.

Fountain maintains several water storage facilities. Keeton Reservoir historically provided the City with 35 acre-feet of storage, but storage is presently limited to three to five acre-feet. The City has 7,800 acre-feet of storage available in Pueblo Reservoir pursuant to Fountain's Fry-Ark Project allocation. Over the past five years, the City has also entered into annual (year to year) contracts for Excess Capacity storage in Pueblo Reservoir. The City's present (2008) Excess Capacity contract is for 600 acre-feet of storage. Storage within the City's distribution system totals 31.5 acre-feet. Through the City's ownership of Fountain Mutual Ditch shares, it presently has approximately 435 acre-feet of storage available at Big Johnson Reservoir. The City's total available storage capacity is approximately 8,870 acre-feet at the present time.

Fountain has applied to the Bureau of Reclamation for 1,300 acre-feet of storage capacity under a long-term Excess Capacity contact in Pueblo Reservoir. The long-term contract will allow Fountain to store up to 1,300 acre-feet of non Fry-Ark Project water in Pueblo Reservoir, pending appropriate governmental approvals and environmental assessments.

Wastewater from Fountain's municipal water system is collected and treated by the Fountain Sanitation District, except for a small area that is provided sewer service by Widefield Water and Sanitation District. Treated wastewater is subsequently released into Fountain Creek. A wastewater treatment facility with a capacity of 1.5 million gallons per day (2.56 MGD peak) was placed in operation in August 1998.

INITIAL WATER CONSERVATION PLAN

On August 30, 2001 the City adopted a water conservation plan in accordance with the Water Conservation Act of 1991. This initial plan includes the use of water-efficient fixtures and appliances, installation of low water use landscapes and efficient irrigation, development of water-efficient industrial and commercial uses, and reuse of lawn irrigation and sewer return flows pursuant to the City's decreed augmentation plan. The initial plan also includes irrigation with non-potable water, distribution system leak repair, information dissemination to its customers, an inclining block rate structure, and adopted regulatory measures to further promote efficient water use.

As described in the final section of this report, Fountain has reduced its average system-wide demand by approximately 12 percent since the initial plan was adopted. This level of savings, equivalent to approximately 340 acre-feet per year at the present time, demonstrates Fountain's dedication to water conservation since the plan adoption. By preparing an update to this initial plan, Fountain has made a commitment to continue its water conservation activities and further increase its savings.

UPDATED WATER CONSERVATION PLAN

Fountain's 2006 Water Master Plan (Master Plan) confirmed the importance of water conservation to the City's future. This plan concluded that, by reducing its demands through water conservation, Fountain could accommodate its projected growth at lower costs. As a result, a water conservation element was included in the water supply alternative that was recommended in the Master Plan. The Master Plan defined the integral role of water conservation in Fountain's overall water supply planning, and it became necessary to update the City's Water Conservation Plan to achieve additional water savings.

This report was prepared to update Fountain's 2001 Water Conservation Plan by documenting all of the City's present and proposed water conservation activities. The updated plan includes the water efficiency measures and programs from the City's initial water conservation plan, and it summarizes the water conservation activities that have been implemented after the initial plan was adopted. In addition, the updated plan

incorporates the water conservation measures and programs that the City has proposed for future implementation. Changes to the City's water supply system and water rights operations (since development of the initial plan) were also included in the updated plan.

The updated plan satisfies the requirements of Section 37-60-126 C.R.S., as amended by the Water Conservation Act of 2004. The Water Conservation Act of 2004 requires all plans to include new elements that were not included in the City's initial plan. These elements, which are listed below, have been addressed in the updated plan:

1. The time period when the Water Conservation Plan will be reviewed and updated.

2. The steps used to develop, and will be used to implement, monitor, review, and revise the Water Conservation Plan.

3. An estimated amount of water that has been saved since the City implemented its initial Water Conservation Plan and is projected to be saved when the updated plan is implemented.

ROLE OF WATER CONSERVATION IN WATER SUPPLY PLANNING

Fountain has always aimed to use water efficiently, but water conservation planning has become even more critical to the City because high growth is anticipated in the coming decades. The role of water conservation in the City's overall water supply planning was defined in Fountain's 2006 Water Master Plan (Master Plan). The Master Plan was completed by Black and Veatch and adopted by City Council as Resolution 07-029 in April, 2007. As described below, the Master Plan evaluated future capital and operation and maintenance costs if the City reduces its demand through water conservation. Based on this evaluation, a water conservation element was included in the recommended water supply alternative. A copy of the Master Plan executive summary is enclosed as Appendix B-1.

SUMMARY OF WATER MASTER PLAN

According to Black and Veatch, the purpose of the Master Plan is to "assist the City of Fountain (City, Fountain) with the long-range planning of its water supply, treatment and distribution systems. The intent of this plan is to provide an assessment of the City's water supply needs through the year 2046. In addition, this plan identifies water supplies and treatment, as well as improvements to the distribution system to meet existing and future demands based on anticipated growth within the current service areas and surrounding areas that are likely to be served by the City in the future."

Projected Demands – Appendix B-2 includes two tables that summarize the annual water demand projections from the Master Plan. As shown on the tables, demands were projected without and with water conservation. The demands without water conservation do not include savings realized under the City's existing water conservation measures and programs. In other words, these projections do not account for the recent demand reductions already observed under the City's 2001 Water Conservation Plan.

The projected demands with water conservation were developed by assuming the City would continue its existing water conservation activities and implement additional measures and programs to reduce its projected demands by approximately 20 percent.

This percentage is cumulative and includes savings that have already been realized through the City's existing water conservation activities. It was assumed that this level of savings would be maintained throughout the entire study period.

As shown in Appendix B-2, the City's year 2046 water demand would be approximately 16,488 acre-feet per year without any existing or future water conservation measures. This demand would represent a 542 percent increase from the City's present demand of approximately 2,569 acre-feet per year. By reducing its demands 20 percent through water conservation, the City's 2046 water demand would decrease to approximately 13,191 acre-feet per year. This projected demand is still a 413 percent increase from the City's annual demand at the present time.

Water Supply Alternatives – Black and Veatch evaluated three water supply alternatives and one sub-alternative that would meet Fountain's demands. The three scenarios are differentiated by the diversion, storage, and treatment of water pumped from Fountain's well field. All three scenarios assume Fountain will receive deliveries from Pueblo Reservoir through the FVA pipeline and the proposed SDS delivery pipeline. Schematics of these three alternatives are included in the executive summary as Figures ES-2 through ES-4.

Alternatives 1 through 3 were studied using the City's projected demands without water conservation. To incorporate water conservation savings into the Master Plan, Black and Veatch evaluated Alternative 3a. This sub-alternative is the same as Alternative 3, except that the City's average day and maximum day demands (without conservation) were reduced by 20 percent throughout the entire study period. As described previously, this demand reduction was assumed to be achieved under the City's existing and future water conservation activities.

Evaluation of Water Supply Alternatives – Tables ES-9 and ES-10 in the executive summary of the Master Plan compare the capital and operation and maintenance (O&M)

cost opinions for each of the alternatives. On the basis of these costs, Black and Veatch recommended that the City implement Alternative 3a, which is the sub-alternative to Alternative 3 that includes a water conservation element.

Alternative 3 and Alternative 3a both have lower capital and O&M costs than Alternatives 1 and 2. The capital cost opinion for Alternative 3a equals $175,967,000, which is approximately $31,087,000 less than the estimated cost of $207,054,000 without water conservation (Alternative 3). Similarly, the total O&M costs for Alternative 3a were estimated to equal $159,877,000. This total cost is 45,758,000 less than the total O&M cost of 205,635,000 for Alternative 3. Based on these estimates, the City will save $76,845,000 ($31,087,000 + $45,758,000) during years 2006 through 2046 by achieving the level of water conservation recommended in the Master Plan.

Capital Improvements Plan – Black and Veatch also recommended improvements to the City's distribution system. The capital and O&M costs associated with Alternative 3a and the distribution system improvements were then combined to develop the capital improvements plan, which is presented in Table ES-12 of the executive summary.

ROLE OF WATER CONSERVATION PLAN

The Master Plan confirmed that water conservation will allow Fountain to minimize the water rights purchases and infrastructure development required to accommodate projected growth in its service area. To meet the Master Plan recommendations, the City's Water Conservation Plan must produce savings of at least 20 percent of its projected demands (without water conservation). The Master Plan applied the 20-percent demand reduction throughout the entire 2006 through 2046 study period (see Appendix B), so the City will need to achieve this level of savings relatively soon.

The recommended 20-percent demand reduction is cumulative and the savings already realized under Fountain's existing water conservation activities count toward this amount. As described in the *Additional Information* section of this report, the City has

already reduced its average system-wide demand by approximately 12 percent since the initial Water Conservation Plan was adopted. As a result, Fountain needs to achieve an additional 8 percent demand reduction to reach the level of water conservation recommended in the Master Plan.

In response to this information, the City has reviewed its existing and proposed water conservation policies and has prepared the updated Water Conservation Plan presented in this report. The City has also recently hired a new staff member (Conservation and Supply Manager) who is responsible for the implementation, monitoring, review, and revision of the Water Conservation Plan.

As described in the *Additional Information* section of this report, it is estimated that the savings from the updated plan will reduce Fountain's system-wide demand (including system losses) by an additional 181 acre-feet per year at the 5-year planning horizon (year 2013). This amount is approximately 3 percent of the projected annual demand of 7,214 acre-feet in year 2013 (without water conservation). This savings estimate is in addition to the savings that have already been achieved by the City's existing water conservation efforts. Fountain's total demand reduction under the updated plan is estimated to equal 15 percent by year 2013, which includes 12 percent at the present level of savings plus 3 percent attributable to additional future savings. This amount is 5 percent less that that the 20-percent demand reduction recommended in the Master Plan, so the City will implement additional water conservation measures to further increase its savings when the plan is next updated.

The Water Conservation Plan is meant to be flexible and allow for modifications. In fact, the updated plan includes specific requirements for the City to monitor, review, and revise (as appropriate) each individual water conservation goal. Such review will allow the City to assess the effectiveness of this plan within its overall water supply planning process and will facilitate development of future plan updates. In accordance with Section 37-60-126 C.R.S., Fountain shall provide public notice of any major changes to this plan and allow for a public comment period.

The City of Fountain's Water Master Plan confirms the importance of water conservation as public policy in Fountain. The Water Conservation Plan is not an independent action that the City implements, it is an integral and indispensable part of the infrastructure planning for the Water System.

REQUIRED MEASURES AND PROGRAMS

The updated Water Conservation Plan will include the water-saving measures and programs that are described below and summarized in Table Summary-1. The Water Conservation Act of 2004 requires these measures and programs to be considered in the development of all water conservation plans.

1.0 WATER EFFICIENT FIXTURES AND APPLIANCES

1.1 Water Efficient Fixtures and Appliances Goal 1

1.1.1 Goal 1 Description: While the City recognizes that compliance with the National Energy Policy Act requirements is not a Goal, the water savings that such compliance accomplishes exists and should be defined. So, although the adoption of the 2003 International Plumbing Code in Fountain may not achieve the status of a true "Goal," the projected water savings can be quantified.

The Pikes Peak Regional Building Department (PPRBD) has primary building inspection responsibility in Fountain. In 2008, the PPRBD adopted the 2003 International Plumbing Code. The City of Fountain adopted this Code as Ordinance 1417 at the April 8, 2008 City Council Meeting. As a result, from that date forward, all fixtures installed in the City of Fountain must conform to the following standards in the 2003 International Plumbing Code:

1.1.1.1 Water closets (toilets) shall have a flow rate of not more than 1.6 gallons per flushing cycle. Blowout design water closets shall not deliver more than 3.5 gallons per flushing cycle.

1.1.1.2 Urinals shall not have a flow rate exceeding 1.0 gallons per flushing cycle.

1.1.1.3 Private lavatory faucets shall be designed and manufactured so that they will not exceed a water flow rate of 2.2 gallons per minute.

1.1.1.4 Metering public lavatory faucets shall deliver no more than 0.25 gallons of water per use. Other (non-metering) public lavatory faucets shall not exceed a water flow rate of 0.5 gallons per minute.

1.1.1.5 Sink faucets shall be designed and manufactured so that they will not exceed a water flow rate of 2.2 gallons per minute. Vegetable sprays, clinical sinks, and service sinks may exceed this rate.

1.1.1.6 Shower heads shall be designed and manufactured so that they will not exceed a flow rate of 2.5 gallons per minute. Emergency safety showers may exceed this rate.

1.1.2 Goal 1 Metric: By implementing these fixture requirements in new construction, there will be no reduction in the base domestic or commercial water demand in the City of Fountain. The reduction in the growth of the base interior-use flow can be expected to be four to seven percent (4% to 7%), which equates to an overall demand reduction of one to two percent (1% to 2%) for the houses and businesses incorporating these fixtures into their hardware. However, this is additive and, as time progresses and more homes and businesses have this structural savings built in, the base interior flow reduction will be more quantifiable. If the average home in Fountain uses 16,000 gallons per month and there are 100 to 400 new homes built every year that install the water efficient fixtures required under this Code and each home realizes a 1% overall water savings, the yearly savings would range from 190,000 to 750,000 gallons.

1.1.3 Goal 1 Implementation: The Code has been adopted and is in place. No further schedule for the actual implementation of the goal is required.

1.1.4 Goal 1 Savings: The difference in water use between the interior fixtures allowed by the previous code and those mandated by the current code

can amount to reductions in interior water use of between 4% and 7% per year (refer to Tables 2.2, 2.5 and 2.11 in *Handbook of Water Use and Conservation*). For a typical household in Fountain, with 7,500 gallons per month as interior use water, this would equate to savings between 300 and 500 gallons per month or about 4,500 gallons per year. For each renovation project, it is assumed that the individual household savings would be about half the new home savings or about 2,500 gallons per year. Table G-1-1 tabulates this and projects the savings over the next 5 years.

1.1.5 Goal 1 Monitoring, Review, and Revision: As this is not truly a Goal, no monitoring, review or revision is necessary.

1.2 Water Efficient Fixtures and Appliances Goal 2

1.2.1 Goal 2 Description: The City of Fountain maintains many buildings as part of the business of running a municipal government. Codes require that most of these buildings must have multiple restroom facilities. While pump houses and vehicle storage buildings do not have restrooms, City Hall, the Fire Stations and the Public Works and Utilities operations and maintenance buildings all use municipal water, as well as several Parks have restroom facilities. Additionally, the City has conducted a Facilities Needs Assessment and Planning Study that recommends the construction or major renovation of some Utilities and Public Works buildings in the foreseeable future. As an example to the citizens of Fountain, the investment in water saving urinals to retrofit City buildings and to incorporate these water efficient urinals into major renovation projects and new building projects is an important part of leading by example. Additionally, this exposes City of Fountain employees to these new water saving fixtures.

1.2.2 Goal 2 Metric: The measurable element for this Goal will be to retrofit all municipal buildings with water efficient urinals and to include water efficient urinals in all new municipal buildings.

1.2.3 Goal 2 Implementation: The measurable element for this Goal will be to retrofit one municipal building with water efficient urinals or to include water efficient urinals in one new municipal building every year for the next five (5) years.

1.2.4 Goal 2 Savings: The Farnsworth Group reported in their July, 2008 study that just changing out the two urinals in City Hall to waterless urinals will save the City about 58,500 gallons per year. The projected water savings will vary as to the size of the building and the extent of the renovation implemented. For purposes of the savings projection shown on Table G-1-2, the estimated savings per project (after City Hall is renovated) will be 20,000 gallons per year.

1.2.5 Goal 2 Monitoring, Review, and Revision: The City shall track the number of municipal buildings that been retrofitted or constructed with water efficient urinals since this updated plan was adopted and annual estimates of the savings under this goal shall be made.

2.0 LOW WATER USE LANDSCAPES AND EFFICIENT IRRIGATION

2.1 Low Water Use Landscapes and Efficient Irrigation Goal 1

2.1.1 Goal 1 Description: The City of Fountain mandates review of the Landscape Design for all new and renovated Commercial, Institutional, Industrial and Multi-Family Residential Developments. The City Planning Department manages the review process, which includes a structured and rigorous review of many land-use elements of design. Part of this

review process involves applying the suggested Plant Listing (See Appendix C-1). While this is not a mandatory Standard, it is part of the review process. This Plant Listing has been part of the Water Conservation Plan in Fountain since the adoption of the Plan.

The applicable part of the Zoning Code is referenced in Section 17.370 of the City Code of Fountain, as follows:

Section 17.370 Landscaping Requirements

A. Purpose. This section establishes minimum standards for landscaping and site design. The city encourages developers and landowners to exceed these minimums whenever possible.

B. Required Landscaping. All lots in all zoning districts not covered by impervious materials shall be landscaped to prevent land erosion, improper drainage, and damage to properties and unsightliness. All undeveloped building areas within partially developed commercial or industrial uses shall be landscaped with a ground cover to control dust and erosion.

C. Allowable Landscape Materials. Selection of plant materials shall be based upon Fountain's climate and soils. Native vegetation, or low water usage vegetation on water conserving design concepts shall be used whenever possible. Minimum sizes and other requirements for plant material shall be as follows:

1. Deciduous trees: Two and one half inch (2 l/2") caliper.
2. Evergreen trees: Six feet (6').Shrubs: Five (5) -gallon containers.
3. Ground cover/perennial sizes shall be selected according to growth rate, spacing and the area to be covered.
4. Thorne plant material shall not be located adjacent to public walks.
5. Clear space above public walks shall be nine feet (9') or greater.
6. Artificial plants shall not be used to comply with the requirements of this section.

7. No more than fifty percent (50%) of an area can be covered by non-living landscaping material.
8. The planting of any trees of the Ulmus genus (elm) is prohibited.

While this is not a mandatory Standard, reviewing this Goal, the underlying policy and coordinating and updating related Code elements and Ordinances is part of Goal 1 of Criterion 8, Regulatory Measures.

2.1.2 Goal 1 Metric: While the review process for Commercial, Institutional, Industrial and Multi-Family Residential Landscaping Design is codified, the use of low water requiring plants is not mandatory for single-family dwellings by City code. The City still encourages such use. By changing the type of plants used in landscaping, Fountain can eventually realize substantial water savings over typical landscape scenarios. The City strongly encourages all citizens in single family dwellings to implement use of these water-saving standards.

2.1.3 Goal 1 Implementation: The revision of this part of the City of Fountain Code is detailed in the Regulatory Measure Criterion Goal 1 Schedule, but the current provisions of the landscaping requirements are already being implemented and may be one of the contributing factors to the 12% reduction in the per capita water usage experienced since the 2001 water conservation plan was adopted.

As described in Goal 4 of this Criterion (Low Water Use Landscapes and Efficient Irrigation), Fountain encourages the use of water-efficient plants in single-family residences through its sponsorship of the Water Returns Project. This project allows citizens to attend seminars addressing water-saving landscape design methods, and the participants receive assistance in implementing a water-efficient landscaping project at their own homes.

2.1.4 Goal 1 Savings: The water savings experienced since this element of the 2001 Water Conservation Plan was adopted is partially due to the implementation of this goal. Savings estimates have not been assigned to this goal alone because such savings are included in the estimate for Goal 1 of the Regulatory Measures Criterion, which is to adopt a change in City Code that addresses sustainable landscaping as a land use regulation.

2.1.5 Goal 1 Monitoring, Review, and Revision: The City shall review annually and update as necessary the *Recommended Plant List of the City of Fountain*.

2.2 Low Water Use Landscapes and Efficient Irrigation Goal 2

2.2.1 Goal 2 Description: For applications that require turf grass, Fountain encourages the use of fine-bladed, turf type, tall fescue, fine fescue, or other similar type of turf grass for general and lawn use. By using the turf grasses mentioned above, the irrigation requirement for the lawn will be reduced. Both the tall and fine fescues are more drought resistant than Kentucky bluegrass cultivars. This is not a codified Standard or Ordinance.

2.2.2 Goal 2 Metric: This is a voluntary standard and is applied on a case-by-case basis. The City will continue to encourage this aspect of landscaping, which can include upwards of 12 commercial/industrial sites every year. The measurement will be how many site plans are approved using low-irrigation turf grass every year.

2.2.3 Goal 2 Implementation: This is an ongoing effort, with no new implementation schedule necessary.

2.2.4 Goal 2 Savings: Similar to Goal 1 of this Criterion, savings estimates were not assigned to this goal alone because such savings are included in the estimate for Goal 1 of the Regulatory Measures Criterion. This related goal involves a change in City Code that addresses sustainable landscaping as a land use regulation.

2.2.5 Goal 2 Monitoring, Review, and Revision: The City shall annually review the number of site plan approvals that use low-irrigation turf grass and estimate the savings achieved under this goal.

2.3 Low Water Use Landscapes and Efficient Irrigation Goal 3

2.3.1 Goal 3 Description: The City strongly encourages the use of Xeriscape gardens that include efficient irrigation systems and plants that use low amounts of water. The City's brochure, *The Seven Principals of Xeriscape,* is available both in hard copy and on its website. The City's website includes additional information detailing the benefits of Xeriscape. The Utility Department's newsletter (UtiliNews) conducts an annual Xeriscape contest. The Fountain Branch of the Pikes Peak Library District also produced a brochure detailing the interactive Xeriscape garden at the Fountain Branch of the Library.

The City has supported several Xeriscape Projects. Each of these was partially or completely funded by the Civil City or by the Fountain Utilities. A map locating these Xeriscape areas is in Appendix C-2. The descriptions are as follows:

2.3.1.1 Fountain Valley Museum: The Xeriscape front yard was installed in 2007 and is relatively small, about 0.15 acre.

2.3.1.2 The Hibbard/Heritage Cul-de-Sac Park was Xeriscaped in 2004. It is approximately 0.5 acres.

2.3.1.3 The site for the Fountain Branch of the Pikes Peak Library District was Xeriscaped in 2006, and consists of approximately 1.5 acres of landscaping.

2.3.1.4 Both Well #3 and the frontage of the Fountain Electric Utility Yard were Xeriscaped in 2008 and together comprise 0.7 acres.

The Library Xeriscaping, including the labels for the various plants and the production of a site-specific brochure, was honored at the Fort Carson Sustainability Conference in October 2007 as an example of collaboration between governmental entities to showcase sustainability concepts.

Additionally, Fountain Utilities and the City of Fountain became the first municipality in El Paso County to join the Southern Colorado Sustainable Partnership.

2.3.2 Goal 3 Metric: The measurement of water savings is based on the estimated difference between the irrigation demand of the area if it were to be conventionally landscaped with the average demands of the regular turf and landscaping utilizing Xeric plantings.

2.3.3 Goal 3 Implementation: The Xeriscaping initiative has been ongoing for several years in Fountain and has grown by collaboration with the other entities (the Pikes Peak Library District, Fort Carson and the Historical Society). The City-sponsored Xeriscaping effort is not a consistent yearly exercise. It is part of the outreach that Fountain feels is necessary to lead the way in sustainability. This outreach will continue as an important part of the Water Conservation Plan.

2.3.4 Goal 3 Savings: Table G-2-3.1 indicates the estimated savings over the past five years from the City-sponsored Xeriscape Projects, resulting in almost 3.5 million gallons over those five years. By predicting a conservative number and some relatively small areas of City-sponsored

Xeriscaping over the next five years, projected water savings estimates for 2009 through 2013 were developed. These estimates are presented in Table G-2-3.2.

2.3.5 Goal 3 Monitoring, Review, and Revision: The City shall conduct an annual review of the Xeriscape information printed in its newsletter and posted on its website. The City shall also track, on an annual basis, the number of Xeriscape projects it has supported since the program was initiated.

2.4 Low Water Use Landscapes and Efficient Irrigation Goal 4

2.4.1 Goal 4 Description: Fountain is a community sponsor of the "Water Returns" project, where the City nominated six citizens who attended five seminars addressing water-saving landscape design methods and plants and revisions to their irrigation practices. The citizens received expert assistance in planning and implementing a water-saving landscaping project at their own homes. The citizens were featured at the end of this summer in a press release and in the Utility Department's newsletter for their efforts.

2.4.2 Goal 4 Metric: In addition to being another outreach program, Water Returns has an internal measurement element. Each of the participants has executed an agreement with the City so that the City can access the water use records at that address, providing a "before and after" comparison of water use at a typical house after executing one landscaping. The Fountain City Attorney has vetted that agreement. The City has included participation in the Water Returns Project for the proposed 2009 Water Department Budget, so it appears that this will be a sustainable program.

2.4.3 Goal 4 Implementation: The City has participated in the Water Returns Project in 2008 and will participate in the Program in 2009.

2.4.4 Goal 4 Savings: The savings expected will initially be rather small, since each participating homeowner will be executing one water-efficient landscaping project, so the savings to each homeowner will probably be on the order of 3,000 gallons per year.

The outreach factor is hard to quantify; with all of the participating homeowners acting as water efficiency "ambassadors," spreading the word among their neighbors that their landscaping can be aesthetically pleasing without consuming excessive irrigation water, the additional outreach can certainly help the City achieve its water efficiency goals.

The water savings, commencing with the six participants in 2008, is estimated to be in the range of 3,000 gallons per participant per year. This will hopefully be born out by the comparison that we will measure each year. Assuming that the City will continue participating in the water Returns Program for the next five years, the potential savings, as presented on Table G-2-4, could amount to 378,000 gallons.

2.4.5 Goal 4 Monitoring, Review, and Revision: The City shall assess its continued participation in the Water Returns project on annual basis. This assessment will include an estimate of the number of homeowners that have participated in the project (since its implementation), the associated savings at their residences, and continued program development by Water Returns.

3.0 WATER-EFFICIENT INDUSTRIAL AND COMMERCIAL WATER-USING PROCESSES

As of 2008, Industrial, Institutional, and Commercial water usage does not constitute a large portion of Fountain's total water consumption. However, the City has taken an approach in maximizing the efficient use of limited water resources for these purposes. The City monitors and reviews the water use of each account in this sector.

The Customer Service Department of the City of Fountain Utilities regularly meets with the 20 largest utility customers, almost all of whom fall into this Sector. By regularly interacting with these large volume water users, the City Utilities can explore opportunities for joint projects addressed at Water Conservation. This resulted in the replacement of the District 8 (Fountain-Fort Carson School District) natural grass football field with artificial turf.

When new development in the Industrial, Institutional and Commercial areas are proposed, the City of Fountain Planning Department conducts a structured and rigorous review of the design proposed for the new development. The Water Department and the Conservation and Supply Manager participate in this Design Review Process, from the Pre-Application Conference, through Preliminary and Final Design, up to Construction and Commissioning. This affords the opportunity to review these designs and request water conservation elements be incorporated on a case-by-case basis. While this is not mandatory, the review serves as an opportunity to suggest changes to Conservation Criteria 1, 2, 8 and 9 in the Continuous Improvement Process.

3.1 Water Efficient Industrial and Commercial Water Using Processes Goal 1

3.1.1 Goal 1 Description: Fountain will continue to monitor water use of each existing Industrial, Commercial and Institutional account and will continue to assess proposed Industrial, Commercial and Institutional developments on an individual basis during the design review process. The City will provide technical assistance to encourage all users in this sector to

complete voluntary audits. Such assistance will include identifying potential water savings opportunities and modeling potential rate savings for each unique applicant. The rate savings modeling will evaluate the return on investment for the specific fixtures being considered, as well as the possibility of a reduced meter and tap size if account consumption is decreased. The individual business owner will be responsible for funding and performing the audit, but Fountain will direct these users to contractors with expertise in completing audits.

The water conservation opportunities for Industrial, Commercial, and Institutional users may include (but are not limited to): Low Flow Interior Fixtures, Efficient Coolant Systems, Efficient Process Water Systems, Efficient Food Service Equipment and Landscape Efficiency. Funding of the purchase and installation of water efficient fixtures, equipment, or systems will be the responsibility of the industrial or commercial business owner.

3.1.2 Goal 1 Metric: The City will continue its policy of working with the Industrial, Commercial and Institutional users on a case-by-case basis.

3.1.3 Goal 1 Implementation: The opportunity for implementation of this Goal is based on both relationships with existing customers and review of new applications for Industrial/Commercial Institutional uses in Fountain. Fountain will continue to advertise the benefits of water conservation to all users in its monthly newsletter (Utilinews). Although water use audits will not be specifically advertised, the City will meet annually with its 20 largest Industrial, Commercial, and Institutional customers to discuss voluntary audits and water conservation opportunities. During these meetings, Fountain will direct these users to informational resources on water savings and to contractors who can perform audits.

For prediction purposes, three water conservation opportunities will be projected each year for the next five years.

3.1.4 Goal 1 Savings: Projecting a savings due to the goal is difficult to estimate, but savings will be quantified as these potential Industrial, Commercial and Institutional users come on line. Table G-3-1 summarizes the projected savings.

3.1.5 Goal 1 Monitoring, Review, and Revision: The City shall continue to review all commercial, industrial, and institutional water uses, and evaluate the need for changes to the types and amounts of water used. Such a review will be conducted on an annual basis and will include a tabulation of the change in account usage from year to year, and an assessment of the trend increasing or decreasing for each end-user.

4.0 WATER REUSE SYSTEMS

4.1 Water Reuse Systems Goal 1

4.1.1 Goal 1 Description: Fountain receives a contractual delivery of approximately 2,000 acre-feet per year of potable water delivered from Pueblo Reservoir via the Fountain Valley Authority (FVA) Pipeline. Until 2003, Fountain's deliveries through the FVA Pipeline were made exclusively from its Fry-Ark storage allocation. The Fry-Ark Project is a Bureau of Reclamation project that includes a collection system of tributaries on the Colorado River, with trans-basin diversions into the Arkansas River basin. The Fry-Ark water is "foreign" water in the Arkansas River, which may be used, reused, and successively used to extinction.

Since 2003, Fountain has entered into annual (year-to-year) contracts with the Bureau of Reclamation for Excess Capacity storage in Pueblo Reservoir. The purpose of the Excess Capacity account is to provide another source of supply for FVA Pipeline deliveries, thereby maintaining more water in Fountain's Fry-Ark account. Releases through the FVA Pipeline have been made primarily out of the Excess Capacity account, although the Fry-Ark account has also been used as needed. The water stored in Fountain's Excess Capacity account is also decreed as fully consumable water and is functionally equivalent to Fry-Ark water.

Pursuant to its augmentation plan decrees and substitute water supply plans, Fountain provides replacement of all stream depletions produced from its well diversions. Fountain's replacement sources include shares of stock in the Fountain Mutual Irrigation Company (FMIC), Keeton Reservoir pipeline deliveries, and return flows resulting from Fountain's use of Fry-Ark Project and other fully consumable water delivered through the FVA Pipeline. The return flows produced from Fountain's use of FVA Pipeline deliveries are often surplus to Fountain's well augmentation requirements.

This goal is to continue reuse of Fountain's surplus return flows (associated with its FVA Pipeline deliveries) by delivering this water into its Excess Capacity account in Pueblo Reservoir and back through the FVA Pipeline. The following tasks are presently required to achieve this goal:

1. Fountain's accounting under its augmentation plans and substitute water supply plans is completed on a daily basis, and the available return flows are reported to the water commissioner.

2. The return flows that are surplus to Fountain's well augmentation requirements are tracked down Fountain Creek to the Arkansas River confluence using the Fountain Creek transit loss model. Fountain participated in the development of this model, which the Colorado Division of Water Resources operates to accurately administer return flows deliveries from several Fountain Creek water users.

3. Fountain delivers its surplus return flows into its Excess Capacity account by operating an exchange from Fountain Creek (at the Arkansas River confluence) to Pueblo Reservoir. Fountain also relies on a trade with Colorado Water Protective and Development Association (CWPDA), an association of well users in the Arkansas River basin, to deliver its surplus return flows to the Excess Capacity account. Under this trade, Fountain makes its surplus return flows available to CWPDA for augmentation use. CWPDA then books water from its Pueblo Reservoir storage account into Fountain's Excess Capacity account. The CWPDA trade provides an alternative mechanism to deliver water into storage when the direct exchange to Pueblo Reservoir is unavailable.

4. Water stored in the Excess Capacity account is released into the FVA Pipeline and delivered back to Fountain's distribution system where it is reused by its customers.

Although this goal does not reduce Fountain's system-wide demand, such reuse allows a portion of that demand to be satisfied with water that has been previously delivered to its customers. A real water savings is achieved because the demand for Fountain's other supplies stored in Pueblo Reservoir is reduced, allowing more of this water to remain in storage.

4.1.2 Goal 1 Metric: Fountain will continue to perform the water rights and water supply operations required to reuse its surplus return flows. Fountain will calculate and report the return flows produced from its FVA Pipeline deliveries. The return flows surplus to Fountain's augmentation requirements will be tracked down Fountain Creek and delivered (by exchange or trade) into its Excess Capacity storage account. The stored water will be delivered back to Fountain through the FVA Pipeline.

Fountain will renew its annual Excess Capacity contract with the Bureau of Reclamation until its pending application for a long-term Excess Capacity contract is approved.

4.1.3 Goal 1 Implementation: Fountain has already implemented reuse of its surplus return flows, so no further schedule for the actual implementation of this goal is required.

4.1.4 Goal 1 Savings: Table G-4-1 summarizes the volume of surplus return flows that have been produced and reused in Fountain's system over the past five years. Specifically, the table lists the initial deliveries to Fountain through the FVA Pipeline, the surplus return flows to Fountain Creek, deliveries to the Excess Capacity account, and releases from the Excess Capacity account into the FVA Pipeline and Fountain's system. The data used to complete the table were obtained from Fountain's water rights accounting and from the storage accounting for the Excess Capacity account.

In addition to listing deliveries of surplus return flows to Fountain Creek, Table G-4-1 also lists surplus Fountain Mutual Ditch releases to Fountain Creek. The surplus Fountain Mutual Ditch releases are made through the Cruse Gulch augmentation station and are also delivered to Fountain's Excess Capacity account by exchange or trade. To estimate the deliveries to (and releases from) Fountain's Excess Capacity account attributably only to return flows, the volumes associated with surplus Fountain Mutual Ditch releases were subtracted out of the calculations.

Table G-4-1 indicates that, on average, approximately 957 acre-feet per year of surplus return flows have been delivered to Fountain Creek for exchange or trade. The total inflow to Fountain's Excess Capacity account has averaged 1,411 acre-feet per year, which includes deliveries

of surplus return flows and Fountain Mutual Ditch releases from Fountain Creek (by exchange or trade) plus transfers from other Pueblo Reservoir storage accounts. Of the total inflow (1,411 acre-feet per year), an average of approximately 762 acre-feet per year is attributable to surplus return flow deliveries to the Excess Capacity account.

Total releases from the Excess Capacity account to the FVA Pipeline have averaged 1,349 acre-feet per year over the past five years. Of the total releases, approximately 745 acre-feet per year are attributable to Fountain's surplus return flows. In other words, Fountain's reuse of surplus return flows has reduced the demand for its other water stored in Pueblo Reservoir by approximately 745 acre-feet per year. Of the 745 acre-feet per year of surplus return flows released to the FVA Pipeline, approximately 708 acre-feet per year has been delivered back into Fountain's distribution system and reused. This amount (708 acre-feet per year) represents the portion of Fountain's system-wide water use that been saved by implementation of this goal.

It is estimated that Fountain will produce and reuse a similar volume of surplus return flows in the future. Although the City projects taking additional deliveries of fully consumable water from its Excess Capacity account when the Southern Delivery System pipeline is completed, Fountain is also projecting greater well augmentation requirements. It is anticipated that these two future changes will offset each other. As a result, future savings under this goal are estimated to equal 708 acre-feet per year.

4.1.5 Goal 1 Monitoring, Review, and Revision: On an annual basis, the City shall calculate the volume of surplus return flows produced, delivered to its Excess Capacity account, and released back to the FVA Pipeline for

reuse in its distribution system. The calculations shall be similar to the calculations presented in Table G-4-1 and will allow the City to evaluate the operations associated with this goal.

5.0 DISTRIBUTION SYSTEM LEAK IDENTIFICATION AND REPAIR

5.1 Distribution System Leak ID and Repair Goal 1

5.1.1 Goal 1 Description: The City plans on implementing a Leak Detection Program in 2009 that will include monitoring the difference between water delivered to the distribution system and water billed to customers on a regular basis. By regularly tracking and calculating water pumped and water sold, Fountain will be able to detect leaks within a short time of occurrence, thus potentially saving large amounts of water.

5.1.2 Goal 1 Metric: The metric is to establish the Leak Detection Program and then to schedule a regular part of the distribution system for leak detection every year. This program will use audio detection.

5.1.3 Goal 1 Implementation: Establishment of a Leak Detection Program is in the Water Department's Goals and Objectives for 2009. The Leak Detection should be operating in 2009, with a goal of inspecting 8% of the Water Distribution System each year. The schedule for implementation is to advertise for Proposals from Leak Detection Contractors during the third quarter of 2009 and to assign a Contract for Leak Detection and to implement detection process during the fourth quarter (when irrigation is minimal) of 2009. It is anticipated that the Leak Detection Contract will be implemented according to the same timetable each year, resulting in the entire distribution system being inspected every twelve years.

5.1.4 Goal 1 Savings: By inspecting 8% of the Water Distribution System each year, a more systemic approach to capital planning for replacement of mains and services can be developed. This activity, in and of itself, does not conserve water. It will serve to guide the implementation of Goals 2 and 3 under Criterion 5, so no specific savings will be attributed to Goal 1.

5.1.5 Goal 1 Monitoring, Review, and Revision: The City shall track the portions of its distribution system that are inspected each year under the Leak Detection Program. The Leak Detection Program shall include regular comparisons of the total water sold to the distribution system metered consumption. On an annual basis, the City shall utilize these comparisons to estimate the total savings associated with Goals 2 and 3. The City will continue to track and monitor unaccounted-for water.

5.2 Distribution System Leak ID and Repair Goal 2

5.2.1 Goal 2 Description: The City has systematically been replacing older sections of asbestos-cement (AC) and cast iron mains over the past eight years. Fountain has some extremely corrosive soils and the standard water main material has been polyvinyl chloride for almost 20 years. The older AC and metal pipe has deteriorated and the policy is that at least one water project every year targets replacement of these mains.

5.2.2 Goal 2 Metric: Continue construction of at least one project to replace older mains with current materials as a proactive measure to prevent leaks.

5.2.3 Goal 2 Implementation: This policy has been in place for over eight years and is planned to continue with the Shumway Road Project planned for construction in 2009 and the South Santa Fe Avenue Water Main Replacement Project planned for construction in late 2009.

5.2.4 Goal 2 Savings: The water savings vary by project; since the various projects are unique in length, size of main replaced and the condition of the main. For the purposes of this report, the savings from the previous six years (2003 through 2008) of implementing this Goal are estimated using the Water Operations Staff estimate of One (1) gallon lost per day for every 30 Lineal Feet of Water Main replaced, resulting in a savings totaling 550,000 gallons. This is summarized in Table G-5-2.1.

Going forward, the estimated water savings will use a rate of One (1) gallon lost per day for every 50 Lineal Feet of Water main replaced, with an average annual replacement length of water main being 1,000 lineal feet resulting in a projected additional Water Savings of 7,300 Gallons per Year. The estimates of cumulative savings over the five-year planning horizon (2009 through 2013) are presented in Table G-5-2.2.

5.2.5 Goal 2 Monitoring, Review, and Revision: The mains replaced (since implementation of the updated water conservation plan) shall be tabulated annually.

5.3 Distribution System Leak ID and Repair Goal 3

5.3.1 Goal 3 Description: The City of Fountain replaces between 10 and 20 fire hydrants every year, between 20 and 60 tap saddles every year and the Water Department changes out between 10 and 20 commercial water meters every year.

5.3.2 Goal 3 Metric: The measure of this effort is the actual number of services, hydrants, and meters replaced each year.

5.3.3 Goal 3 Implementation: This is an ongoing effort by the Water Department and is planned to be continued into the foreseeable future.

5.3.4 Goal 3 Savings: Many of the Saddle Taps and Fire Hydrants that are replaced are degraded due to very corrosive soils in some areas of Fountain. While not all of these appurtenances exhibit excessive leakage losses, future repair areas will be for replacement using the Leak Detection Program (Criterion 5, Goal 1), upon its implementation.

The Water Operations Staff estimated the savings from implementing this Goal over the past six years. In their opinion, each Saddle Tap replaced did not leak, but up to one in every five exhibited a leakage rate of 15 gallons per day. This is presented in Table G-5-3.1.

Likewise, while each Fire Hydrant replaced did not exhibit leakage, but one in three of the Fire Hydrants exhibited leakage estimated at a rate of 10 gallons per day. That savings is presented in Table G-5-3.2. From the records presented in Tables G-5-3.1 and G-5-3.2, it is estimated that implementing this Goal over the past six years totals approximately 815,000 gallons. In the future, the actual estimated savings will be more precisely defined using data from the Leak Detection Program.

The predicted savings by continuing this Goal is based on the averages noted in the paragraph above, with the historic average number of Saddle Tap Replacements (24 per year) and Hydrant Replacements (10 per year) projected into the future. By continuing this Goal, it is estimated that an additional 27,000 gallons per year will be saved replacing Saddle Taps and an additional 11,000 gallons per year will be saved replacing Fire Hydrants. The projected cumulative savings during years 2009 through 2013 is summarized in Tables G-5-3.3 and G-5-3.4.

The savings accomplished by changing out the commercial water meters are not anticipated to be true savings in water volume, but are anticipated to be reflected as a more precise accounting of the water delivery to this sector of customers.

5.3.5 Goal 3 Monitoring, Review, and Revision: The fire hydrants, tap saddles, and commercial meters replaced (since implementation of the updated water conservation plan) shall be tabulated annually. Estimated water savings, both cumulative and yearly, will be based on the leakage rates defined in the Leak Detection Program. From the projections presented in Tables G-5-3.3 and G-5-3.4, it is estimated that implementing this Goal will result in an additional annual savings of 38,000 Gallons per Year.

5.4 Distribution System Leak ID and Repair Goal 4

5.4.1 Goal 4 Description: The City of Fountain regularly reviews and updates the Water Distribution System Design and Construction Specifications Manual, with special attention given to incorporating modern materials and equipment. In 2007, the City Council adopted Ordinance 1383, the Water Distribution Design and Construction Specifications Manual (Water Standards). This was an amendment of the Water Standards that were originally adopted in 1986 and have been regularly updated since then. The most recent amendment addressed the corrosive nature of the soils in some areas of Fountain and defined additional cathodic protection standards.

5.4.2 Goal 4 Metric: Enforcement of the Water Standards is ongoing, with both new developments and City-funded projects incorporating the Water Standards.

5.4.3 Goal 4 Implementation: The usual pattern of Code Review and Revision is regularly every four to five years. When the Standards were updated in 2007, multiple review sessions involving the technical design community and the construction and development community were convened.

5.4.4 Goal 4 Savings: The water savings directly attributable to this initiative is very difficult to quantify. The adoption of the current Tapping Saddle Standards (Water Standard 7.02.e) reflects the Water Department's experience with degrading seals that ductile iron saddle taps have exhibited in the corrosive soils in some areas of Fountain's Water Service Area.

5.4.5 Goal 4 Monitoring, Review, and Revision: The City shall continue to review its enforcement of the Water Standards and the need to update these standards.

6.0 DISSEMINATION OF INFORMATION

6.1 Dissemination of Information Goal 1

6.1.1 Goal 1 Description: The City of Fountain provides regular information on water conservation through a number of media. The monthly newsletter that is included in the Fountain Utility Bills is titled the "UtiliNews." In the 2006 Customer Survey conducted by Fountain Utilities, 76% of the respondents indicated that this is their preferred source of information about all utility matters. In that same customer survey, conservation issues ranked third (behind money saving tips and rate information) as topics that the customers indicated they wanted more frequent information about.

6.1.2 Goal 1 Metric: Continue to include water conservation information in the UtiliNews.

6.1.3 Goal 1 Implementation: UtiliNews is published every month and the Water Department will use this medium as a primary outlet to disseminate water conservation information and rebate and incentive information.

6.1.4 Goal 1 Savings: It is difficult to assign any savings to this specific initiative.

6.1.5 Goal 1 Monitoring, Review, and Revision: The water conservation information printed in UtiliNews shall be reviewed annually.

6.2 Dissemination of Information Goal 2

6.2.1 Goal 2 Description: The City of Fountain maintains a Web Site (www.fountaincolorado.org) and the Water Department includes both an area dedicated to water conservation and Xeriscaping. The Water Conservation Plan is posted on the Web Site.

6.2.2 Goal 2 Metric: Continue to use the City's Web Site as a conduit for water conservation information. The measure of effectiveness can only increase; unfortunately, in the Customer Survey conducted in 2006, only 3% of all respondents indicated that the City's Web Site was their primary source of Utilities news. The City's Web Site was extensively remodeled in 2007, so, hopefully, a more current presentation and format will encourage a higher use of this information medium.

6.2.3 Goal 2 Implementation Schedule: There is no specific Schedule for implementing this goal; it is an ongoing effort.

6.2.4 Goal 2 Savings: It is difficult to assign any savings to this specific initiative.

6.2.5 Goal 2 Monitoring, Review, and Revision: The water conservation information posted on the City's web site shall be reviewed annually.

6.3 Dissemination of Information Goal 3

6.3.1 Goal 3 Description: The City and other agencies produce hard copy brochures illustrating water conservation methods and programs, including the City's Xeriscape brochure, the Fountain Branch of the Pike's Peak Library District's Xeriscape garden brochure and the Southeast Colorado Water Conservation District's lawn irrigation brochure. All of these brochures are available at City Hall and at the Water Department Office.

6.3.2 Goal 3 Metric: This is an outreach effort that, although necessary, is difficult to measure for effectiveness. These hard copy brochures are also distributed at the Fort Carson Sustainability Conference, at the Fountain Community Night Out event (Low Water Use Landscapes and Efficient Irrigation Criterion Goal 3) and through the Water Returns program (Low Water Use Landscapes and Efficient Irrigation Criterion Goal 4). As outreach opportunities arise, there will be more opportunities to get these brochures into the hands of the water utility customers.

6.3.3 Goal 3 Implementation: There is no specific schedule for implementing this goal; it is an ongoing effort.

6.3.4 Goal 3 Savings: It is difficult to assign any savings to this specific initiative.

6.3.5 Goal 3 Monitoring, Review, and Revision: The water conservation brochures that the City distributes shall be reviewed annually. The City shall also annually assess its participation in various outreach events.

6.4 Dissemination of Information Goal 4

6.4.1 Goal 4 Description: The City of Fountain senior staff meets monthly with the Housing and Building Association of Colorado Springs (HBA), both at the monthly Utilities Committee Meeting (third Thursday of every month) and with a group of builders, developers and design professionals who are active in the Fountain area on the first Thursday of every month. Regulatory affairs, upcoming initiatives from the City's various departments and conflict-resolution are regular discussion topics at these meetings, which provide a forum for interaction between stakeholders. Since the Water Master Plan that the City adopted in 2007 counts on the future construction to incorporate structural conservation methodologies, coordination and enthusiastic cooperation with the HBA is essential. This is also part of Regulatory Measures Criterion as Goal 3.

6.4.2 Goal 4 Metric: The adoption, management and continuous improvement of the Water Conservation Plan will be presented to the HBA, their comments solicited and considered for inclusion and their participation in this program encouraged through the regular meetings.

6.4.3 Goal 4 Implementation: The outreach and information sharing efforts with the HBA is an ongoing operational element of the City of Fountain senior staff. Increasing the outreach effort to include water conservation began with the public input stage of the Water Conservation Plan.

6.4.4 Goal 4 Savings: As with other outreach efforts, this goal's potential savings are difficult to quantify; the spillover into the other associated goals will have more objective measurement criteria.

6.5.4 Goal 4 Monitoring, Review, and Revision: The water conservation plan shall be discussed on a regular basis during the City's meetings with the HBA.

7.0 WATER RATE STRUCTURES AND BILLING SYSTEMS

At one time, Fountain had a flat rate water structure based on meter size. For each meter size, there was a minimum monthly flat charge. For example, under the old rate structure, for a 1-1/2- inch meter, the customer was charged for a minimum of 13,000 gallons each month, even if the actual usage was less. If the customer exceeded the 13,000 minimum amount, each additional 1,000 gallons used per month was charged at $1.65. This rate structure obviously did not encourage water conservation.

Beginning with the rate structure adopted by the City Council on June 14, 2001, Fountain instituted an inclining block arrangement designed to promote water conservation. This structure has been a template for the ensuing water rate changes. The City annually performs a review of its water rates and tap fees and implements rate changes when required.

The City of Fountain has used the following six principles to underpin the water rate structure:

1. Water system should be financially self supporting
2. Water rates and tap fees should be fair and equitable
3. Water rates should promote conservation – “more you use, more you pay”
4. Water quality must meet health standards
5. System investment needed to properly plan for growth
6. New customers should pay for costs they generate – “growth must pay its own way”

The history of Fountain’s Water Rates over the past several years is presented in Table G-7-1. Actions that have been taken to encourage conservation include the increase in the percentage increase in the higher-use blocks beginning with the 2008 Water Rates (Blocks 4 and 5 increased 9 to 11%, while the Blocks 1 through 3 increased 6%) and the addition of a Sixth Rate Block beginning with the 2009 Water Rates. The current (2009) Water Rate Structure is included in Appendix C-3.

7.1 Water Rate Structures and Billing Systems Goal 1:

7.1.1 Goal 1 Description: Regularly review the water rate structure to confirm that the six principles are supported by the financial income and expenses. Conduct public hearings on any revisions to the Water Rate Structure.

7.1.2 Goal 1 Metric: Yearly budget workshops and hearings are conducted at the senior staff level and are presented as recommendations from the Utilities management to the City Council for adoption. On a yearly basis, the Utilities management conducts a review of the water rates and connection (tap) fees and recommended revisions to the current tap fee schedule are presented to the City Council for adoption.

7.1.3 Goal 1 Implementation: These reviews occur on an annual basis.

7.1.4 Goal 1 Savings: Quantification of savings directly attributable to this goal is impossible to measure in terms of gallons of water saved. However, the Water Department feels that the stepped Water Rate Structure has contributed appreciably to the residential conservation accomplished since the Rate Structure was introduced in 2001.

7.1.5 Goal 1 Monitoring, Review, and Revision: The Utilities Department shall continue to review the water rate structure on a yearly basis and recommend appropriate revisions to the City Council for adoption.

7.2 Water Rate Structures and Billing Systems Goal 2

7.2.1 Goal 2 Description: The current connection fees for a single family residence in Fountain are competitive with other water suppliers in Colorado, but can be restrictive for some residents. The fee for a ¾ inch water service includes $10,824 for the infrastructure charge (capital

expenses for transmission, treatment and storage facilities) and $6,500 for water acquisition, totaling $17,324. Goal 2 addresses the affordability of the water service, while recognizing the six water rate structure principles. Basically, the Water Department will adopt a hardship schedule of payments so that qualifying potential customers may connect to the water system without the large tap fee as a prerequisite. The tap fee will be paid as a surcharge to the monthly billing over a specified period of time.

7.2.2 Goal 2 Metric: The measurement for this goal is to study, formulate and adopt this surcharge system as part of Fountain's water rate schedule.

7.2.3 Goal 2 Implementation Schedule: The Goal 2 implementation is planned to for calendar year 2009.

7.2.4 Goal 2 Savings: This change in the Water Department tap fee schedule is not expected to affect water supply volumes appreciably.

7.2.5 Goal 2 Monitoring, Review, and Revision: The Water Department shall assess this surcharge billing system as a part of its annual review of water rates and connection (tap) fees.

7.3 Water Rate Structures and Billing Systems Goal 3

7.3.1 Goal 3 Description: The City of Fountain currently sells potable water for non-potable uses, including construction water for soil compaction and as a dust palliative. The water is conveyed through temporary meters mounted on fire hydrants. This is not an efficient use of a costly commodity. In fact, in 2006, the City sold over 50,000,000 gallons for "construction water." By substituting non-potable water, the high quality water can be used more efficiently for domestic, commercial and

industrial uses that require potable water, while construction water application can use a lower water quality commodity.

7.3.2 Goal 3 Metric: The City has acquired several agricultural wells along Wilson Road and is in the process of changing the decrees on these wells from agricultural use to municipal use. One of these wells (the "Marshall #2") is included in Fountain's approved Substitute Water Supply Plan. The City has retained the engineering firm JDS Hydro Consultants, Inc., to design a new well installation facility at this well, which will include a construction tanker filling facility. The construction tankers will have an access card system that registers their water at each fill up for billing. By replacing some of the potable water used for construction (for areas in the southeast part of the City), we can measure the amount of potable water no longer used for this non-potable purpose.

7.3.3 Goal 3 Implementation: The design contract for this well build-out is assigned. The construction contract is anticipated to be bid in the winter of 2008-09, and the Marshall #2 Well is planned to be operational in the spring of 2009. Additional non-potable wells are under consideration for similar uses, but no definitive schedule is planned.

7.3.4 Goal 3 Savings: Based on recent use records in this area, the City is looking to save 10,000,000 gallons per year of potable water, with the same number of gallons accounted for in non-potable water. This savings potential is dependent on the amount of non-potable water demand. If there is no construction in Fountain that involves major earthmoving elements, the total demand for "construction water" that can use the non-potable source, there will be negligible amounts of non-potable water sales.

7.3.5 Goal 3 Monitoring, Review, and Revision: The City shall continually track the non-potable water sold for construction uses and estimate the annual

reduction in potable demand under this goal. A non-potable rate structure should also be considered during the City's annual reviews of its water rates and tap fees. All non-potable water shall be metered sales.

8.0 REGULATORY MEASURES

8.1 Regulatory Measures Goal 1

8.1.1 Goal 1 Description: Currently, the City Code Title 17, Chapter 17.37 (Landscaping, Fencing and Screening), Section 17.370 (Landscaping Requirements) requires an intense level of site landscaping. In commercial and industrial settings, this has required development to install a water service for land uses that otherwise have no reason to use municipal water. Although these regulations are stated to be a minimum requirement and even though some language in this section addresses low water use plantings, the preamble to this section states, "The city encourages developers and landowners to exceed these minimums whenever possible." This goal is to adopt a zoning regulation for site landscaping that respects the water conservation goals of the City of Fountain while maintaining the visual, aesthetic and screening aspects of the spirit of the land use regulations.

8.1.2 Goal 1 Metric: The measure of effectiveness in attaining this goal will be the City adopting a change in the City Code that addresses sustainable landscaping as a land use regulation.

8.1.3 Goal 1 Implementation: The initiation of this Goal is anticipated to occur in calendar 2009, with completion of the adoption of revised developmental regulations in the various City of Fountain land use codes to address required water use reduction to be adopted in late 2009 or early 2010.

8.1.4 Goal 1 Savings: The effect of accomplishing this goal will not immediately be seen, since this addresses development and construction projects from the adoption of the appropriate regulations forward.

The projected water savings realized by implementing a mandatory sustainable landscaping ordinance or regulation are estimated by first estimating the number of new or renovated Commercial or Industrial sites and estimating the number of new Residential lots in subdivisions that incorporate low water demand landscaping. The projections in the Review of the Water Rates conducted in December, 2008 according to Criterion 7, Goal 1, estimate the number of new water customers in the Residential and Commercial/Industrial Sectors as presented in Table G-8-1. The projected number of new customers in 2009 is reduced to 25% of the total projection, since the revised Landscaping Regulations will probably not be implemented until the third quarter of calendar 2009.

The low-water demand landscaping is also not as low demand as the Xeric landscaping that was defined in Criterion 2, Goal 3, but the quantification estimate methodology is similar. In these cases the estimated water savings is based on the difference between the landscaping water demand for conventionally landscaped lots and the water demand for low-water demand landscaping installed on these sites. Rather than the difference between a 20-week conventional water demand (15 gallons per square foot per year) and the Xeric landscaping demand rate of 5 gallons per square foot per year, we consider the reduction projected by such an ordinance to be more modest, aiming at a reduction to a rate of 12 gallons per square feet per year.

In the case of the Commercial/Industrial Sector, it is assumed that each site will average 0.5 acres (22,000 square feet) of landscaped area and, in the Residential Sector; each subdivision lot will have 7,500 square feet (0.17 acre) of landscaped area. As Table G-8-1 shows, achievement of

this Goal results in a large potential savings, but this is only realized in new developments, with housing and commercial uses that are new to the City of Fountain.

8.1.5 Goal 1 Monitoring, Review, and Revision: After adoption of the revised City Code, the City shall continue to assess the effectiveness of the water conservation provisions under the revised City Code. This assessment shall include a comparison of Fountain's total per capita use rates before and after the City Code change. This review shall be performed every year.

8.2 Regulatory Measures Goal 2

8.2.1 Goal 2 Description: As noted in Goal 4 of the Dissemination of Information criterion in this Water Conservation Plan, the senior staff of the City of Fountain meets regularly with the Housing and Building Association of Colorado Springs (HBA). It is essential to have this group as a willing participant, since the overall goals of the comprehensive Water System Master plan depend on the new construction implementing structural water conservation measures. This goal is to comprehensively define these implementation measures for new developments, both as the overall development planning and design is developed and for individual properties within the larger subdivisions and then develop the codification and implement the conservation measures with each development. This goal differs from Goal 1 in that there are no code elements requiring revision, the development of these provisions and then concurrence between the City and the development community is the goal.

8.2.2 Goal 2 Metric: The long-term metric is to implement water savings elements into development design and construction to effect a change of gross water demand from one acre-foot-per-year serving two single-

family equivalent units to that same acre-foot-per-year of water supplying three single-family equivalent units.

8.2.3 Goal 2 Implementation: The adoption of the requisite regulatory measures is dependent on many factors, but a potential date for implementing the regulatory measures by code adoption could be as soon as the end of calendar year 2009. However, one possibility could be to implement the draft code elements as a pilot project in a single subdivision to demonstrate (and quantify) the water savings

8.2.4 Goal 2 Savings: This is a cumulative savings, incorporating the savings accomplished in several other goals under several other criteria (including, but not limited to Goal 1 under Criterion 1, Goal 3 under Criterion 7 and Goal 1 under Criterion 8).

To avoid duplication, this Goal does not predict any savings in water use. Accomplishment of this Goal will result in the ability to implement the other Goals, which are quantified separately.

8.2.5 Goal 2 Monitoring, Review, and Revision: The City shall monitor this goal by estimating the average per capita use of new homes that are constructed after the new regulatory measures are implemented. This evaluation shall be performed on an annual basis (after implementation of the regulatory measures).

8.3 Regulatory Measures Goal 3

8.3.1 Goal 3 Description: The City of Fountain Water Department does not have a specific rule, regulation or ordinance that prohibits or punishes water waste. The City assembled all of the ordinances and rules for the Water Utility in the area of the City Code known as the Water Code, which consists of Chapter 13.04 in the Municipal Code (included as

Appendix C-4). There are measures regulating and prohibiting theft or tampering with meters, but there is no specific prohibition or definition of waste.

8.3.2 Goal 3 Metric: Preparation and introduction of a Water Waste Ordinance to be presented to the City Council for consideration will be included as part of the Goals and Objectives of the Water Department in calendar year 2009. Adoption requires the consent and approval of a majority of the City Council.

8.3.3 Goal 3 Implementation: Implementation of a Water Waste Ordinance presupposes approval by the City Council. If this Ordinance is not approved by Council, it will not be implemented or enacted.

8.3.4 Goal 3 Savings: Unless and until such an Ordinance is approved and implemented, there will be no water savings quantified as a result of this Goal. Even when such an Ordinance is in place the consistent and repeatable savings is difficult, if not impossible, to predict. This may place the Water Utility Staff in the unenviable position of becoming "Water Police." While it is recognized that incident-related water curtailments are occasionally necessary (and that these instances are direct response to timely supply constraints), a consistent savings is not predicted as a result of implementing such a regulation.

8.3.5 Goal 3 Monitoring, Review, and Revision: Upon implementation of such a regulation, the Water Utility Staff will review the effectiveness of such a water waste Rule on a regular basis (not to exceed once every two years) to assess the viability and the actual water savings of such a rule.

9.0 INCENTIVES TO IMPLEMENT WATER CONSERVATION

9.1 Incentives Goal 1

9.1.1 Goal 1 Description: The City of Fountain retained Harvey Economics, the firm that performs the Water Department rate studies, to develop an Incentives Program for both the Electric Utility and the Water Utility. Mr. Ed Harvey presented the results of his study to the City Council in September 2008. This presentation was well received by City Council and Council instructed Fountain Utilities to include the Incentives Program (for both utilities) in the planning for the 2009 Budget.

The Incentives Program will be administered by the Customer Service Department of Fountain Utilities.

9.1.2 Goal 1 Metric: The measurement in achieving this goal is the adoption and implementation of an Incentive Program for Water Conservation.

9.1.3 Goal 1 Implementation: The Incentives Program planning commenced with the finalization of the report from Harvey Economics in 2008. In 2009, the Utilities Staff will formalize and present an Incentives Program to the City Council for adoption. Additionally, funding to implement the Incentives Program is included in the budget for 2009. It is anticipated that the Incentives Program for Water Conservation will be fully funded and fully functional in 2010.

9.1.4 Goal 1 Savings: The criterion that the City will use to decide on an Incentives Program has three determining factors:

9.1.4.1 Cost to implement versus savings for the customer,

9.1.4.2 Cost to implement versus savings for the utilities, and

9.1.4.3 Cost to implement versus savings for the environment.

The opportunities for incentives that most closely match these three factors include (for the Water Utility only) Low-Flow Faucets, Low Flow Showerheads, Dual and High-Efficiency Toilets and Irrigation Controllers. As shown in the Table G-9-1.1, these are four potential incentives that can be effective in accomplishing the conservation goal of this criterion.

The estimated water savings are summarized in Table G-9-1.2.

9.1.5 Goal 1 Monitoring, Review, and Revision: The City shall conduct an annual review of its incentives program that will include an estimate of the year water savings realized under the program. This review will also consider the need for additional incentives to promote water conservation.

9.2 Incentives Goal 2

9.2.1 Goal 2 Description: Fountain Utilities has created a senior staff position of Conservation and Supply Manager, who is charged with continuing the administration of the Water Conservation Plan, as well as creating an Electric Conservation Plan and managing the supply elements for both utilities. Until now, the conservation aspect of managing both the Water Utility and the Electric Utility in Fountain was a secondary position responsibility of several senior staff members in the respective utilities. This Manager position is also charged with operating the incentives program, as it is adopted.

9.2.2 Goal 2 Metric: Actually interviewing candidates for the position of Conservation & Supply Manager and filling this position is the measurement of this goal.

The City interviewed three candidates for this position in October, 2008 and Curtis Mitchell, P.E. accepted the appointment to this position. He began his responsibilities in January, 2009.

By assigning the management of the Water Conservation Program to one senior staff person and supporting this position with budget and resources, the City reinforces the commitment to conservation that was adopted as part of the Water System Master Plan. The Conservation & Supply Manager will work with the Customer Services Department of Fountain Utilities to implement, assess the effectiveness and revise the Incentives Program for both the Electric and Water Utilities.

9.2.3 Goal 2 Implementation: The position of Conservation and Supply Manager was filled in January 2009.

9.2.4 Goal 2 Savings: The water savings directly attributable to implementation of this goal are difficult to quantify.

9.2.5 Goal 2 Monitoring, Review, and Revision: Professional positions in the City of Fountain are reviewed on an annual basis according to the Human Resources Policy of the City.

OTHER MEASURES AND PROGRAMS

In addition to the plan elements required under the Water Conservation Act of 2004 that were described the previous section of this report, the City has implemented other measures and programs to conserve its water supplies. These additional plan elements include the development of groundwater supplies for non-potable uses and a pipeline that delivers augmentation water from Keeton Reservoir to Fountain Creek, which are described below and summarized in Table Summary-2.

10.0 NON-POTABLE SUPPLIES

10.1 Non-Potable Supplies Goal 1 (Note that this is the same as Goal 3 under Criterion 7)

10.1.1 Goal 1 Description: The City of Fountain currently sells potable water for non-potable uses, including construction water for soil compaction and as a dust palliative. The water is conveyed through temporary meters mounted on fire hydrants. This is not an efficient use of a costly commodity. In fact, in 2006, the City sold over 50,000,000 gallons for "construction water." By substituting non-potable water, the high quality water can be used more efficiently for domestic, commercial and industrial uses that require potable water, while construction water application can use a lower water quality commodity.

10.1.2 Goal 1 Metric: The City has acquired several agricultural wells along Wilson Road and is in the process of changing the decrees on these wells from agricultural use to municipal use. One of these wells (the "Marshall #2") is included in Fountain's approved Substitute Water Supply Plan. The City has retained the engineering firm JDS Hydro Consultants, Inc., to design a new well installation facility at this well, which will include a construction tanker filling facility. The construction tankers will have an

access card system that registers their water at each fill up for billing. By replacing some of the potable water used for construction (for areas in the southeast part of the City), we can measure the amount of potable water no longer used for this non-potable purpose.

10.1.3 Goal 1 Implementation: The design contract for this well build-out is assigned. The construction contract is anticipated to be bid in the winter of 2008-09, and the Marshall #2 Well is planned to be operational in the spring of 2009. Additional non-potable wells are under consideration for similar uses, but no definitive schedule is planned.

10.1.4 Goal 1 Savings: Based on recent use records in this area, the City is looking to save 10,000,000 gallons per year of potable water, with the same number of gallons accounted for in non-potable water. This savings potential is dependent on the amount of non-potable water demand. If there is no construction in Fountain that involves major earthmoving elements, the total demand for "construction water" that can use the non-potable source, there will be negligible amounts of non-potable water sales.

10.1.5 Goal 1 Monitoring, Review, and Revision: The City shall continually track the non-potable water sold for construction uses and estimate the annual reduction in potable demand under this goal. A non-potable rate structure should also be considered during the City's annual reviews of its water rates and tap fees. All non-potable water shall be metered sales.

10.2 Non-Potable Supplies Goal 2

10.2.1 Goal 2 Description: Fountain has agreed to operate non-potable water systems for Fountain-Fort Carson School District 8 at the Aragon School and for two of the Metro Districts that maintain common space landscaping irrigation systems. Specifically, Fountain provides

augmentation of depletions from the Aragon Well under the City's approved Substitute Water Supply Plan. The City has also included the Delbert Wells Well Nos. 1 and 2 (Delbert Wells), which will be used for landscape irrigation at the Ventana Subdivision, in its Substitute Water Supply Plan. Additionally, Fountain has filed an augmentation plan application for the Pullara Well #5 and a Substitute Water Supply Plan request is being prepared. This well will be used for landscape irrigation purposes at the Cumberland Green Subdivision.

By providing augmentation water and by managing the filings and permitting for these wells, the City encourages the use of non-potable well water for these irrigation purposes and lessens the demand on the City's treated potable water. The City is amenable to working with other developers as they set up homeowners' associations and Metro Districts to maintain the common space landscaping.

10.2.2 Goal 2 Metric: Additional potential non-potable uses are possible. The City is looking to increase the opportunities to substitute non-potable water for potable water in landscape irrigation applications.

10.2.3 Goal 2 Implementation: The Aragon Well has been operated for the past several years, while the Delbert Wells Well Nos. 1 and 2 and Cumberland Green Well are anticipated to be operational within the next year. The City actively discusses these types of operations with other developers who may have well structures that can be incorporated for common space landscape irrigation purposes.

10.2.4 Goal 2 Savings: Well diversions will total approximately 2,000,000 gallons per year from the Aragon Well, 33,000,000 gallons per year from the Delbert Wells, and 16,000,000 gallons per year from the Pullara Well No. 5. As a result, Fountain can reduce its demand for treated water by approximately 51,000,000 gallons per year through use of these wells.

This savings potential could increase even more if additional non-potable irrigation uses are developed.

10.2.5 Goal 2 Monitoring, Review, and Revision: The City shall continually track the non-potable water sold for irrigation uses and estimate the annual reduction in potable demand under this goal. A non-potable rate structure should also be considered during the City's annual reviews of its water rates and tap fees.

11.0 KEETON RESERVOIR DELIVERY PIPELINE

Fountain obtains a portion of its augmentation water supply from Keeton Reservoir, located approximately seven miles west of Fountain on Little Fountain Creek. Water is released from the reservoir and conveyed to Fountain by pipeline. The delivered water is not used within Fountain's distribution system, but is instead delivered to Fountain Creek to offset depletions from the City's municipal wells.

11.1 Keeton Pipeline Goal 1

11.1.1 Goal 1 Description: The pipeline delivery system conserves the Keeton Reservoir releases and prevents this water from being consumed through evaporation and evapotranspiration in the natural channel along Little Fountain Creek. Maintenance and enhancement of this delivery system will continue to be a high priority for the City to maximize efficient use of this water resource.

11.1.2 Goal 1 Metric: This goal is measured the by the continued operation of the pipeline to deliver water from Keeton Reservoir to Fountain Creek.

11.1.3 Goal 1 Implementation: Because the pipeline is constructed and operational, no further schedule for the actual implementation of this goal is required.

11.1.4 Goal 1 Savings: The goal does not decrease Fountain's demand, but instead increases the augmentation supply that can support the City's well pumping. Approximately 180 acre-feet per year (59 million gallons) are delivered through the Keeton Pipeline to Fountain Creek. These augmentation deliveries could not be made without the pipeline.

11.1.5 Goal 2 Monitoring, Review, and Revision: The City's augmentation deliveries through the Keeton Pipeline shall continue to be tabulated in its weekly accounting reports to the Division of Water Resources. The City will also continue to periodically assess the maintenance needs of this facility.

ADDITIONAL INFORMATION

This section provides the additional information required by the Water Conservation Act of 2004 (Section 37-60-126 C.R.S.) that was not included in the City's initial Water Conservation Plan. More specifically, the following plan elements are addressed:

1. The time period when the Water Conservation Plan will be reviewed and updated.

2. The steps used to develop, and will be used to implement, monitor, review, and revise the Water Conservation Plan.

3. An estimated amount of water that has been saved since the City implemented its initial Water Conservation Plan and is projected to be saved when the updated plan is implemented.

TIME PERIOD FOR CONSERVATION PLAN REVIEW AND UPDATE

Fountain will review and update the Water Conservation Plan on a regular basis not to exceed every two years. The plan also includes specific requirements for the City to monitor, review, and revise (as appropriate) each individual goal associated with the plan's measures and programs. These periodic goal evaluations, along with annual monitoring of the City's per capita water use, will facilitate development of future plan updates. All reviews and updates of the Water Conservation Plan will be a primary assignment of the City's Conservation and Supply Manger.

DEVELOPMENT, IMPLEMENTATION, MONITORING, REVIEW, AND REVISION

Development – The updated Water Conservation Plan was completed to document the City's present and proposed water conservation activities into a formal plan that satisfies the requirements of the 2004 Water Conservation Act. The updated plan was also developed to further reduce Fountain's projected demands, as recommended in the City's 2006 Water Master Plan.

As described in the *Present and Projected Savings* section below, Fountain has reduced its overall demand by approximately 12 percent since the initial plan was adopted. This

level of savings indicates that the City's present water conservation activities have been successful and should be continued. As a result, the updated plan includes the water efficiency measures and programs in the City's initial plan along with any additional water conservation activities that City has since implemented. In addition, the updated plan incorporates the water conservation measures and programs that the City has proposed to further increase its savings. The plan development also evaluated changes to the City's water supply system and water rights operations since the initial plan was completed.

As required by statute, the updated plan was made available for public review and comment over a sixty-day period. At the August 19, 2008 City Council meeting, the City Council approved a resolution that authorized the City staff to provide public notice of the draft plan and receive comments from the public. A press release was published in the El Paso County Advertiser and News newspaper on August 27, 2008, inviting the public to comment on the draft plan. Notice of the draft plan was also posted on the City's website (www.fountaincolorado.org) beginning on August 25, 2008. The City also made presentations of the draft Water Conservation Plan at the meetings listed below.

1. September 3, 2008 Planning Commission
2. September 4, 2008 Home Builders Association of Colorado Springs
3. September 10, 2008 Economic Development Commission
4. September 24, 2008 and October 7, 2008 Public Presentations on the Draft Water Conservation Plan

Enclosed as Appendix D are copies of the City Council resolution, press release, and proof of publication in the newspaper. All public comments were considered in finalizing this report.

The updated Water Conservation Plan was adopted by City Council on March 10, 2009. A copy of the resolution adopting the plan is included in Appendix D.

Implementation – A schedule for implementation of each goal associated with the measures and programs in the Water Conservation Plan has been individually described in the *Required Measures and Programs* and *Other Measures and Programs* sections of

this report. These implementation schedules are also summarized in Table Summary-1 and Table Summary-2.

Monitoring, Review, and Revision - Each of the efficiency measures and programs in the updated plan will be monitored and reviewed on a regular basis and revised if necessary. As mentioned previously, the City's new staff member (Conservation and Supply Manager) is responsible for the monitoring, review, and revision of this plan.

The *Required Measures and Programs* and *Other Measures and Programs* sections of this report individually describe the monitoring, evaluation, and revision requirements for each goal under the updated plan's measures and programs. Table Summary-1 and Table Summary-2 also include a summary of these requirements. In addition, the City shall track the overall efficiency of the plan by monitoring the per capita water use of its customer sectors. This overall evaluation shall be conducted on an annual basis, which will allow comparisons between years and months of similar climatic conditions.

PRESENT AND PROJECTED SAVINGS

Present Savings - The amount of water that Fountain has saved since adopting the initial Water Conservation Plan has been estimated by comparing the City's present water use with its use prior to implementation of water conservation activities. The calculations supporting this estimate are included in Table Savings-1 and described below.

W. W. Wheeler and Associates had performed an analysis of the City's water use during the period from 1991 through 1996, as documented in the 1996 report, *City of Fountain Water Supply Analysis*. The City had not implemented any significant water conservation measures during the 1991 through 1996 period. Fountain's annual municipal well production and Fry-Ark water deliveries (through the Fountain Valley Authority Pipeline) during this time averaged 1,629 acre-feet per year. This amount represented the City's average annual water usage through its distribution system (including system losses). In the 1996 report, Wheeler also estimated the service area

population to be approximately 10,000 people at that time. Consequently, the average per capital use equaled approximately 145 gallons per capita per day (gpcd).

As shown on Table Intro-1 in the *Introduction* section of this report, Fountain's deliveries through its distribution system averaged 2,569 acre-feet per year during the most recent five year period from 2003 through 2007. As with the 1991 through 1996 data, this amount equals well diversions and FVA Pipeline deliveries into the City's distribution system and includes system losses. The average population of Fountain's service area during this time was estimated to be approximately 17,875 people. As a result, the corresponding average per capita use was equal to approximately 128 gpcd.

The City's present water conservation measures have reduced its average gross demand from 145 gpcd (1991 through 1996) to approximately 128 gpcd (2003 through 2007), a savings of 17 gpcd. This level of savings is approximately 12 percent of the total water demand without water conservation (145 gpcd) and is equivalent to approximately 340 acre-feet per year for the 2003 through 2007 average population of 17,875 people.

Projected Savings – As described in the *Required Measures and Programs* and *Other Measures and Programs* sections of this report, the savings attributable to each goal associated with the updated plan's measures and programs was estimated. Savings estimates were performed for a 5-year planning horizon, which includes years 2009 through 2013. Table Savings-2 summarizes the estimated additional savings for each goal in the plan. The annual estimates in this table are cumulative over the 2009 through 2013 period, but these values do not include savings that have already been achieved in prior years. For example, the savings for 2009 includes the additional annual savings achieved during 2009 only, while the savings achieved during 2010 equals the 2009 estimate plus any additional annual savings realized in 2010.

Table Savings-2 indicates that savings directly attributable to some water conservation goals could not be estimated or assigned on an individual basis. These goals are important to the overall effectiveness of the Water Conservation Plan, but the associated

savings cannot be separated from savings under other measures and programs. For example, it would be impossible to estimate the savings attributable to the City's goals for dissemination of information (Criteria No. 5) because there are several other water conservation elements that contribute the reductions in use. For these goals, it was assumed the associated savings are included under the estimated savings for the other measures and programs in the plan.

The savings of 708 acre-feet per year under Water Reuse Systems Goal 1 (reuse of return flows) does not reduce Fountain's total demand, but instead allows a portion of that demand to be satisfied with water that has been previously delivered to its customers. Similarly, the savings of 180 acre-feet per year under Keeton Reservoir Pipeline Goal 1 (maintain pipeline) does not reduce Fountain's total demand, but it increases the augmentation supply that can support the City's well pumping. These goals produce real water savings, but they do not reduce the City's projected total demands. As a result, we have not included the savings from these goals in the overall estimate prepared in Table Savings-2. In addition, any potential reduction in total demand associated with Fountain's use of non-potable supplies has not been included in the overall savings estimate.

As shown in Table Savings-2, approximately 181 acre-feet per year of additional savings are estimated by year 2013. This amount represents the overall reduction to Fountain's gross demand (including system losses) and is in addition to the present savings that have already been achieved. This additional savings is the overall goal of the updated Water Conservation Plan, and it represents approximately 3 percent of the projected annual demand of 7,214 acre-feet in year 2013 (without water conservation).

As described in the *Present Savings* section above, the City has already reduced its average gross demand by approximately 12 percent since the initial Water Conservation Plan was adopted. Because the estimated savings expressed in Table Savings-2 do not include this reduction, the present level of savings was added to the additional future savings to estimate the total demand reduction under the Water Conservation Plan. The demand reduction was then compared with the projected annual demands for 2009

through 2013 (without water conservation) to estimate the percentage by which Fountain's system-wide demands would be decreased. This information is presented in Table Savings-3.

As previously described in the *Role of Water Conservation in Water Supply Planning* section of this report, the 2006 Water Master Plan recommended that the City utilize water conservation to reduce its projected demands (without water conservation) by 20 percent. This requirement is cumulative and the savings already realized under Fountain's existing water conservation activities count toward the recommended reduction. As indicated in Table Savings-3, Fountain's total demand reduction under the updated plan is estimated to equal 15 percent by year 2013. This amount includes a 12-percent reduction at the present level of savings plus a 3-percent reduction attributable to additional future savings. This savings estimate is 5 percent less than the 20-percent demand reduction recommended in the Master Plan. Since the estimated savings (and overall goal) of the updated plan is not anticipated to completely satisfy the water conservation element of the Master Plan over the next 5 years, the City will implement additional water conservation measures to further increase its savings when the plan is next updated.

Projected Savings Update - The monitoring and review requirements associated with the measures and programs in the updated Water Conservation Plan require that the savings be estimated for each individual goal. This requirement applies only to the goals in which savings can be individually measured separate from other water conservation activities. By adhering to these monitoring and review requirements, Fountain will collect additional data that could allow it to further refine its overall savings estimate when the Water Conservation Plan is next updated.

TABLES

Table Sector-1
Water Use History by Sector

YEAR	RESIDENTIAL CUSTOMERS AND USE	COMM/IND/INST CUSTOMERS AND USE	CONSTRUCTION CUSTOMERS AND USE	FARMERS HYDRANT CUSTOMERS AND USE	MUNICIPAL CUSTOMERS AND USE
2003 CUSTOMERS	4,664	244	32	155	35
VOLUME (GAL.)	547,398,900	157,210,848	85,316,952	3,678,700	5,821,770
2004 CUSTOMERS	5,022	251	24	155	35
VOLUME (GAL.)	494,583,171	134,661,018	55,511,647	3,388,500	6,745,240
2005 CUSTOMERS	5,579	310	36	17	35
VOLUME (GAL.)	571,326,985	183,887,543	29,887,494	2,045,600	7,470,000
2006 CUSTOMERS	6,092	295	32	16	35
VOLUME (GAL.)	583,094,328	153,669,570	50,647,893	521,500	6,257,590
2007 CUSTOMERS	6,493	318	21	3	35
VOLUME (GAL.)	632,390,221	179,337,330	13,910,947	306,500	7,983,510

NOTES: The Customer Count listed is the number of Water Meters in each Sector that are active on December 31 of that year, except for the Construction Use, which lists the largest number of Construction Meters in use during the Calendar Year. The Water Volume listed is the summation of the water metered to the Customers over the course of the Calendar Year.

Table Summary-1
City of Fountain, Colorado Water Conservation Plan
Summary of Required Measures and Programs

Required Measure/ Program and Goal	Metric	Implementation	Savings	Monitoring, Review, and Revision
Water Efficient Fixtures and Appliances Goal 1 - Implement 2003 IPC	2003 IPC required for all new homes and business, or existing buildings that replace fixtures.	Implementation is complete and will continue.	See Table G-1-1.	No monitoring, review, or revision is necessary.
Water Efficient Fixtures and Appliances Goal 2 - City Buildings	Retrofit all municipal buildings with water efficient urinals and include water efficienct urinals in all new municipal buildings.	Retrofit one municipal building with water efficient urinals or include water efficient urinals in one new municipal building every year for the next five years.	See Table G-1-2.	Annual review of muncipal buildings and savings estimate.
Low Water Use Landscapes and Efficient Irrigation Goal 1 - Plant List	Specific plant list (adopted by ordinance) applied in review of landscape designs for commercial, institutional, industrial, and multi-family developments.	Implementation is complete and will continue.	No savings assigned. The savings from this goal are included in the estimate for Goal 1 of the Regulatory Measures Criterion.	Annual review of recommended plant list.
Low Water Use Landscapes and Efficient Irrigation Goal 2 - Low-Irrigation Turf	Low-Irrigation turf grass as a voluntary standard.	Implementation as a voluntary standard is complete and will continue.	No savings assigned. The savings from this goal are included in the estimate for Goal 1 of the Regulatory Measures Criterion.	Annual review of site plan approvals with low-irrigation turf grass and savings estimate.
Low Water Use Landscapes and Efficient Irrigation Goal 3 - Xeriscape	Xeriscape garden information and funding of Xeriscape projects.	Ongoing development of demonstration gardens in Fountain.	See Tables G-2-3.1 and G-2-3.2.	Annual review of Xeriscape information and sponsorship of example projects.
Low Water Use Landscapes and Efficient Irrigation Goal 4 - Water Returns	Sponsor "Water Returns" progarm for individual homeowners.	Participated in 2008 and will participate in 2009.	See Table G-2-4.	Annual review of homeowner participation, estimated savings, and continued program development.
Water-Efficient Industrial and Commercial Water-Using Processes Goal 1 - Assess Individual User Needs	Continue to monitor existing users and review new development proposals to incorporate water conservation elements on a case by case basis.	Implementation on a case-by-case basis, based on relationships with existing users and new development proposals.	See Table G-3-1.	Annual review of commercial, industrial, and institutional accounts.
Water Reuse Systems Goal 1 - Reuse of Retum Flows	Continue reuse of surplus return flows associated with Fountain's FVA Pipeline deliveries.	Implementation is complete and will continue.	708 acre-feet (231 million gallons) per year of return flows are delivered back into Fountain's distribution system. See Table G-4-1.	Annual calculation of surplus return flow production, deliveries to Excess Capacity account, and releases to the FVA Pipeline.
Distribution System Leak Identification and Repair Goal 1 - Leak Detection Program	Establish leak detection program and schedule a part of the distribution system for audio leak detection every year.	Program operational in 2009, with 8% of distribution system inspected each year.	No specific savings assigned, but this goal will guide implementation of Goals 2 and 3.	Track portions of distribution system inspected each year. Regular comparisons of water sold to metered consumption to estimate annual savings under Goals 2 and 3.
Distribution System Leak Identification and Repair Goal 2 - Water Main Replacement	At least one project every year to replace older mains.	Implementation is complete and will continue.	See Tables G-5-2.1 and G-5-2.2.	Annual tabulation of mains replaced. Annual savings estimated using leak detection program.
Distribution System Leak Identification and Repair Goal 3 - Fire Hydrant, Saddle, and Meter Replacement	Replace 10 to 20 fire hydrants and 20 to 60 tap saddles every year. Change out 10 to 20 commercial water meters every year.	Implementation is complete and will continue.	See Tables G-5-3.1, G-5-3.2, G-5.3.3, and G-5-3.4.	Annual tabulation of fire hydrants, tap saddles, and commercial meters replaced. Annual savings estimated using leak detection program.
Distribution System Leak Identification and Repair Goal 4 - Design and Construction Specifications	New development and City funded projects incororate the latest specifications.	The specifications were last updated in 2007 and will be reviewed every four to five years.	No quantification.	Continuous review of specifications and need to update.
Dissemination of Information Goal 1 - Provide Information in UtiliNews Newsletter	Continue to include water conservation information in the UtiliNews newsletter.	UtiliNews is published every month.	No quantification.	Annual review of information in UtiliNews.
Dissemination of Information Goal 2 - Provide Information on City's Web Site	Continue to include water consrvatoin information on the City's web site.	Implementation is ongoing. Web site currently includes an area dedicated to water consvation and Xeriscaping, and the water conservation plan is posted online.	No quantification.	Annual review of information on website.
Dissemination of Information Goal 3 - Hard Copy Brochures	Continue to distribute brochures to customers as outreach opportunities arise.	Implementation is ongoing. Brochures are presently available at City Hall and the Water Department Office and are distributed at events throughout the year.	No quantification.	Annual review of brochures and participation in outreach events.

Table Summary-1
City of Fountain, Colorado Water Conservation Plan
Summary of Required Measures and Programs

Required Measure/ Program and Goal	Metric	Implementation	Savings	Monitoring, Review, and Revision
Dissemination of Information Goal 4 - Meet with HBA of Colroado Springs	At regular meetings, discuss water conservation plan and encourage HBA participation.	Including water conservation in the HBA meetings began with the public input stage of this water conservation plan.	No quantification.	Regular discussion at HBA meetings.
Water Rate Structures and Billing Systems Goal 1 - Review Water Rate Structure	Water rates and tap fees are reviewed on an annual basis and revisions are recommended to the City Council.	Annual reviews are conducted.	No quantification.	Annual review and revision recommendations.
Water Rate Structures and Billing Systems Goal 2 - Hardship Schedule for Tap Fees	Study, formulate, and adopt a hardship schedule of tap fee payments for qualifying potential customers.	Scheduled for 2009.	Will not affect water savings.	Annual review (included in review of water rates and tap fees).
Water Rate Structures and Billing Systems Goal 3 - Non-Potable Supply for Construction Use	Design, construct, and operate a well (Marshall Well No. 2) to be used as a construction tanker filling facility.	Well is included in the City's approved substitute water supply plan and the design contract has been assigned. Well to be operational in spring of 2009.	Up to 10,000,000 gallons per year will be used for non-potable construction purposes.	Continually track non-potable water sold for construction, which will be metered. Annual estimate of potable demand reduction. Consider non-potable rate structure during annual review of water rates.
Regulatory Measures Goal 1 - Revise Section 17.370 of the Zoning Regulations	Adopt a change in the City Code that addresses sustainable landscaping as a land use regulation.	Adopt revised regulations in late 2009 or early 2010.	See Table G-8-1.	After adoption of city code revisions, annual review including assessment of per capita use rates.
Regulatory Measures Goal 2 - Develop Water Conservation Measures with HBA	Implement additional water savings elements into development design and construction codes.	Potential code adoption by end of 2009, with possible pilot program prior to that time.	Will promote the implementation of other plan goals that have been quantified separately.	After implementation, annual estimate of per capita use of new homes.
Regulatory Measures Goal 3 - Water Waste Ordinance	Prepare and introduce a water waste ordinance for City Council consideration.	Prepare ordinance for City Council consideration in 2009. Not implemented unless approved by City Council.	No quantification.	Review the ordinance at least one time every two years.
Incentives to Implement Water Conservation Goal 1 - Incentives Program	Adopt and implement an incentive program for water conservation.	Consultant finalized report in 2008. Program presented for City Council adoption in 2009. Program to be fully funded and functional in 2010.	See Table G-9-1.2	Annual review of incentives and savings estimate.
Incentives to Implement Water Conservation Goal 2 - Conservation and Supply Manager	Interview candidates for position of Conservation and Supply Manager and fill this position.	Position was filled in January 2009.	No quantification.	Professional posistions are reviewed annualy according to the City's human resources policy.

Table Summary-2
City of Fountain, Colorado Water Conservation Plan
Summary of Other Measures and Programs

Other Measure/ Program and Goal	Metric	Implementation	Savings	Monitoring, Review, and Revision
Non-Potable Supplies Goal 1- Non-Potable Supply for Construction Uses	Design, construct, and operate a well (Marshall Well No. 2) to be used as a construction tanker filling facility.	Well is included in the City's approved substitute water supply plan and the design contract has been assigned. Well to be operational in spring of 2009.	Up to 10,000,000 gallons per year will be used for non-potable construction purposes.	Continually track non-potable water sold for construction, which will be metered. Annual estimate of potable demand reduction. Consider non-potable rate structure during annual review of water rates.
Non-Potable Supplies Goal 2 - Non-Potable Supply for Irrigation Uses	Agreed to augment non-potable irrigation wells at Aragon Elementary School and two metro districts. Will look for additional opportunities to use non-potable supplies.	Aragon Well operated for past several years. Wells at metro districts anticipated to be operational within the next year. Active discussion with other developers.	51,000,000 gallons per year will be used for non-potable irrigation purposes.	Continually track non-potable water sold for irrigation, which will be metered. Annual estimate of potable demand reduction. Consider non-potable rate structure during annual review of water rates.
Keeton Reservoir Delivery Pipeline Goal 1 - Maintain Pipeline	Continue operation of the Keeton Reservoir Delivery Pipeline to deliver augmentation water to Fountain Creek.	Implementation is complete and will continue.	Increases augmentation supply by approximatley 180 acre-feet (59 million gallons) per year.	Pipeline deliveries reported in weekly water rights accounting. Periodic maintenance assessment.

Table G-1-1
Estimated Future Interior Savings

YEAR	NEW HOMES PER YEAR	RENOVATIONS PER YEAR	ESTIMATED TOTAL SAVINGS (Gal/Year)	CUMULATIVE SAVINGS (Gal/Year)
2009	150	25	737,500	737,500
2010	350	25	1,637,500	2,375,000
2011	400	25	1,862,500	4,237,500
2012	400	25	1,862,500	6,100,000
2013	400	25	1,862,500	7,962,500
5-Year TOTALS	1,700 Total New Homes 2009-2013	125 Total Renovations 2009-2013	7,962,500 Total Savings 2009-2013	21,412,500 Gallons Saved 2009-2013

NOTES: This assumes that all of the new homes will have two showerheads and two commodes that comply with the new code.

Table G-1-2
Estimated Future City Renovation Savings

YEAR	PROJECTS PER YEAR	ESTIMATED TOTAL SAVINGS (Gal/Year)	CUMULATIVE SAVINGS (Gal/Year)
2009	1 - City Hall	58,500	58,500
2010	1 - Water Shop	20,000	78,500
2011	1 - Public Works	20,000	98,500
2012	1 - Fleet Shop	20,000	118,500
2013	1 - Electric Shop	20,000	138,500
5-Year TOTALS	5 Total Projects 2009-2013	138,500 Total Savings 2009-2013	492,500 Gallons Saved 2009-2013

Table G-2-3.1
Previous Xeriscape Projects

YEAR	PROJECT NAME	AREA XERISCAPED (Acres)	ESTIMATED TOTAL IRRIGATION (Gal/Year)	ESTIMATED XERIC IRRIGATION (Gal/Year)	ESTMATED SAVINGS (Gal/Year)	CUMULATIVE SAVINGS (Gal/Year)
2008	Well #3 Xeriscape	0.2	130,680	43,560	87,120	1,241,460
2008	Electric Utility Streetscape	0.5	326,700	108,900	217,800	
2007	Fountain Valley Museum	0.15	98,010	32,670	65,340	936,540
2006	Library Xeriscaping	1.5	980,100	326,700	653,400	871,200
2005		0.0	0	0	0	217,800
2004	Hibbard/Heritage Park	0.5	326,700	108,900	217,800	217,800
5-Year TOTALS		2.85 Total Area Xeriscaped	1,862,190 Total Irrigation 2004-2008	620,730 Xeric Irrigation 2004-2008	1,241,460 Total Savings 2004-2008	3,484,800 Gallons Saved 2004-2008

NOTES: The estimated Total Irrigation for this area would be for an equivalent site area that had conventional landscaping installed. This is based on a 20-week irrigation volume of 15 gallons per square foot of turfed area (per the Southeastern Colorado Water Conservation District's - SECWCD - Lawn Watering Guide).

The Irrigation Demand for Xeric Landscaping over the 20-week irrigation period is, according to the SECWCD Lawn Watering Guide, 5 gallons per square foot.

Table G-2-3.2
Estimated Future Savings from Xeriscape Projects

YEAR	PROJECT NAME	AREA XERISCAPED (Acres)	ESTIMATED TOTAL IRRIGATION (Gal/Year)	ESTIMATED XERIC IRRIGATION (Gal/Year)	ESTMATED SAVINGS (Gal/Year)	CUMULATIVE SAVINGS (Gal/Year)
2009	Project 1	0.2	130,680	43,560	87,120	87,120
2010	Project 2	0.2	130,680	43,560	87,120	174,240
2011	Project 3	0.2	130,680	43,560	87,120	261,360
2012	Project 4	0.2	130,680	43,560	87,120	348,480
2013	Project 5	0.2	130,680	43,560	87,120	435,600
5-Year TOTALS		1.00 Total Area Xeriscaped	653,400 Total Irrigation 2009-2013	217,800 Xeric Irrigation 2009-2013	435,600 Total Savings 2009-2013	1,306,800 Gallons Saved 2009-2013

NOTES: The estimated Total Irrigation for this area would be for an equivalent site area that had conventional landscaping installed. This is based on a 20-week irrigation volume of 15 gallons per square foot of turfed area (per the Southeastern Colorado Water Conservation District's - SECWCD - Lawn Watering Guide).

The Irrigation Demand for Xeric Landscaping over the 20-week irrigation period is, according to the SECWCD Lawn Watering Guide, 5 gallons per square foot.

The potential Projects over the next five years are currently undefined and represent an average of the intensity and scope of Xeriscape Projects similar to those undertaken during the past five years.

Table G-2-4
Estimated Savings from Water Returns Projects

YEAR	NUMBER OF PARTICIPANTS	SAVINGS PER YEAR (Gal/Participant)	ESTIMATED TOTAL SAVINGS (Gal/Year)	CUMULATIVE SAVINGS (Gal/Year)
2008	6	3,000	18,000	18,000
2009	6	3,000	18,000	36,000
2010	6	3,000	18,000	54,000
2011	6	3,000	18,000	72,000
2012	6	3,000	18,000	90,000
2013	6	3,000	18,000	108,000
6-Year TOTALS	36 Total Participants		108,000 Total Savings 2008-2013	378,000 Gallons Saved 2008-2013

Table G-3-1
Industrial/Commercial/Institutional Savings (Projected)

YEAR	INDUSTRIAL COMMERCIAL OR INSTITUTIONAL PROJECTS	LOW FLOW INTERIOR FIXTURES	EFFICIENT COOLANT SYSTEM	EFFICIENT PROCESS WATER	EFFICIENT FOOD SERVICE EQUIPMENT	LANDSCAPE IRRIGATION EFFICIENCY	ESTIMATED TOTAL VOLUME SAVED (Gal/Year)	CUMULATIVE VOLUME SAVED (Gal/Year)
2009	3	1	1	0	1	3	771,500	771,500
2010	3	1	0	1	1	3	1,141,500	1,913,000
2011	3	1	1	0	1	3	771,500	2,684,500
2012	3	1	0	1	1	3	1,141,500	3,826,000
2013	3	1	1	0	1	3	771,500	4,597,500
5-Year TOTALS	15 Total Projects 2009-13						4,597,500 Total Savings 2009-2013	13,792,500 Gallons Saved 2009-2013

The estimated savings in water volume is based on the published information in the Handbook of Water Use and Conservation, by Amy Lucille Vickers, First Edition, 2001, published by WaterPlow Press. The reference is identified as "Vickers."

Low Flow Interior Fixtures Toilets, Faucets and Showers will be targeted with each series of faucets replaced estimated to (consevatively) save 1,000 to 2,000 gallons per year (reference: Vicker, Table 2.15). For this estimate, 1,500 gpy is incorporated into Table G-3-1. One of the three Projects each year will incorporate these elements.

Efficient Coolant Systems One water-cooled Project is projected to come through the review process on alternate years. It is anticipated that the cooling towers will be relatively small (less than 100 tons), and that the savings can be quanitified by increasing the concentration ration by one cycle, thereby reducing the make-up water by about 3,000 gallons per day. Over the course of a 30-week coolant season, that would result in yearly savings of 630,000 gallons. See the Vickers calculation methodology on pages 298-300.

Efficient Process Water Systems Process water use is unique to the process employed and the projection of savings is imprecise, not knowing the process employed. For projection purposes, it is assumed that only one such application will be developed every second year in Fountain.' Also, this projects that the Project will be a modest water demand Project, incorporating about 1,000,000 of process water per year. The savings of 5% is a conservative estimate, based on the Case Studies presented in Sections 4.3.1 and 4.3.2 in Vickers.

Efficient Food Service Equipment For the projection of water savings purposes of this Conservation Plan Update, it is assumed that one new or remodeled restaurant of mass feeding (corporate or institutional lunch room) facility will be developed every year for the next five years. Using the data presented in Vickers, , Sectyion 4.4, potential savings in water use can easily approach 5% of the total water volume. This incorporates efficient dishwashers, faucets, and icemakers. The yearly savings can approach 100,000 gallons, but, for this Update, 80,000 per year will be quanitified.

Landscape Efficiency Weekly irrigation at Commercial sites on lots withh 4,000 square feet for 20 weeks per year could average around 7,000 gallons per week (irrigating 3 inches rainfall equivalent). By increasing the efficiency to only require 2.5 inches per week, the water savings per week would be about 1,000 gallons per week (gpw). All three of the I/C/I uses will incorporate this savings element.
Reference: Vickers, Table 3.5.

Table G-4-1
Reuse of Return Flows by the City of Fountain, 2003-2007
(values in acre-feet)

	Calendar year	2003	2004	2005	2006	2007	Average
	Fountain Creek Deliveries						
1	Total Deliveries to Fountain through FVA Pipeline *(from water rights accounting)*	2,100	1,818	1,907	2,068	2,052	1,989
2	Total Return Flows Produced from Fountain *(from water rights accounting)*	1,435	1,251	1,275	1,418	1,402	1,356
3	Surplus Return Flows Delivered to Fountain Creek for Exchange or Trade *(from water rights accounting)*	823	796	1,074	1,017	1,075	957
4	Surplus Fountain Mutual Ditch Releases to Fountain Creek at Cruse Gulch *(from water rights accounting)*	395	460	542	480	482	472
5	Total Surplus Deliveries to Fountain Creek for Exchange or Trade *(line 3 + line 4)*	1,218	1,256	1,616	1,497	1,557	1,429
	Excess Capacity Account Operations						
6	Excess Capacity Account Deliveries from Exchanges and Trades[1] *(from storage accounting)*	905	1,075	971	1,483	1,255	1,138
7	Excess Capacity Account Transfers from Other Sources *(from storage accounting)*	400	339	116	202	306	273
8	Total Inflow to Excess Capacity Account *(line 6 + line 7)*	1,306	1,414	1,087	1,685	1,561	1,411
9	Excess Capacity Account Deliveries Attributable to Return Flows *(line 6 x line 3 / line 5)*	612	681	646	1,007	867	762
10	Total Excess Capacity Account Releases to FVA Pipeline *(from storage accounting)*	139	1,818	1,692	1,477	1,617	1,349
11	Excess Capacity Account Releases from Water Stored by Exchanges and Trades[1] *(line 10 x line 6 / line 8)*	96	1,382	1,512	1,300	1,300	1,118
12	Excess Capacity Account Releases Attributable to Return Flows *(line 11 x line 3 / line 5)*	65	876	1,005	883	898	745
	Deliveries Back to Fountain						
13	Estimated Deliveries of Return Flows Back to Fountain's System[2] *(line 12 x 95 percent)*	62	832	955	839	853	708

[1]Attributable to surplus return flows and Fountain Mutual Ditch releases, which are delivered from Fountain Creek to the Excess Capacity account by exchange or trade.
[2]Based on a five percent delivery and treatment loss.

Sources:
1. Fountain's daily and weekly water rights accounting.
2. Storage accounting for Fountain's Excess Capacity account (provided by the Bureau of Reclamation).

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Table G-5-2.1
Previous Water Main Replacement Projects

YEAR	WATER MAINS REPLACED (Lineal Feet)	ESTIMATED LEAKAGE (Gal/Year/L.F.)	ESTIMATED TOTAL LEAKAGE SAVED (Gal/Year)	CUMULATIVE LEAKAGE SAVED (Gal/Year)
2008	0	12	0	114,367
2007	800	12	9,733	114,367
2006	800	12	9,733	104,633
2005	1,200	12	14,600	94,900
2004	3,100	12	37,717	80,300
2003	3,500	12	42,583	42,583
6-Year TOTALS	9,400 Total Linal Feet Replaced 2003-2008		114,367 Total Savings 2003-2008	551,150 Gallons Saved 2003-2008

NOTES: The estimated loss rate from the leaking mains is 1 gallon per day per every 30 Lineal Feet of Water Main replaced.

Table G-5-2.2
Estimated Future Savings from Water Main Replacement

YEAR	WATER MAINS REPLACED (Lineal Feet)	ESTIMATED LEAKAGE (Gal/Year/L.F.)	ESTIMATED TOTAL LEAKAGE SAVED (Gal/Year)	CUMULATIVE LEAKAGE SAVED (Gal/Year)
2013	1,000	7	7,300	51,100
2012	1,000	7	7,300	43,800
2011	1,000	7	7,300	36,500
2010	1,000	7	7,300	29,200
2009 (Planned)	3,000	7	21,900	21,900
5-Year TOTALS	7,000 Total Linal Feet Replaced 2009-2013		51,100 Total Savings 2009-2013	182,500 Gallons Saved 2009-2013

NOTES: The estimated future savings is based on a leakage rate of 1 gallon per day for every 50 lineal feet of water main replaced, with an average of 1,000 LF of water main replaced every year.

Table G-5-3.1
Previous Saddle Tap Replacement Projects

YEAR	SADDLE TAPS REPLACED	ESTIMATED LEAKAGE (Gal/Year/Tap)	ESTIMATED TOTAL LEAKAGE SAVED (Gal/Year)	CUMULATIVE LEAKAGE SAVED (Gal/Year)
2008	56	5,475	61,320	158,775
2007	0	5,475	0	97,455
2006	35	5,475	38,325	97,455
2005	0	5,475	0	59,130
2004	22	5,475	24,090	59,130
2003	32	5,475	35,040	35,040
6-Year TOTALS	145 Total Taps Replaced 2003-2008		158,775 Total Savings 2003-2008	506,985 Gallons Saved 2003-2008

NOTES: One (1) in every Five (5) Saddle Taps exhibited a 15 gallon-per-day Leakage Rate

Table G-5-3.2
Previous Fire Hydrant Replacement Projects

YEAR	FIRE HYDRANTS REPLACED	ESTIMATED LEAKAGE (Gal/Year/Hydrant)	ESTIMATED TOTAL LEAKAGE SAVED (Gal/Year)	CUMULATIVE LEAKAGE SAVED (Gal/Year)
2008	14	3,650	17,033	90,033
2007	15	3,650	18,250	73,000
2006	14	3,650	17,033	54,750
2005	0	3,650	0	37,717
2004	19	3,650	23,117	37,717
2003	12	3,650	14,600	14,600
6-Year TOTALS	62 Total Hydrants Replaced 2003-2008		90,033 Total Savings 2003-2008	307,817 Gallons Saved 2003-2008

NOTES: One (1) in every Three (3) Fire Hydrants exhibited a 10 gallon-per-day Leakage Rate

Table G-5-3.3
Estimated Future Savings from Saddle Tap Replacement

YEAR	SADDLE TAPS REPLACED	ESTIMATED LEAKAGE (Gal/Year/Tap)	ESTIMATED TOTAL LEAKAGE SAVED (Gal/Year)	CUMULATIVE LEAKAGE SAVED (Gal/Year)
2013	24	5,475	27,375	136,875
2012	24	5,475	27,375	109,500
2011	24	5,475	27,375	82,125
2010	24	5,475	27,375	54,750
2009	24	5,475	27,375	27,375
5-Year TOTALS	120 Total Taps Replaced 2009-2013		136,875 Total Savings 2009-2013	410,625 Gallons Saved 2009-2013

NOTES: The estimated future savings are based on replacing 24 saddle taps per year, of which 5 saddle taps exhibit leakage at a rate of 15 gallons per day (per tap).

Table G-5-3.4
Estimated Future Savings from Fire Hydrant Replacement

YEAR	FIRE HYDRANTS REPLACED	ESTIMATED LEAKAGE (Gal/Year/Hydrant)	ESTIMATED TOTAL LEAKAGE SAVED (Gal/Year)	CUMULATIVE LEAKAGE SAVED (Gal/Year)
2013	10	3,650	10,950	54,750
2012	10	3,650	10,950	43,800
2011	10	3,650	10,950	32,850
2010	10	3,650	10,950	21,900
2009	10	3,650	10,950	10,950
5-Year TOTALS	50 Total Hydrants Replaced 2009-2013		54,750 Total Savings 2009-2013	164,250 Gallons Saved 2009-2013

NOTES: The estimated future savings are based on replacing 10 fire hydrants per year, of which 3 fire hydrants exhibit leakage at a rate of 10 gallons per day (per tap).

Table G-7-1
Rate Structure History

USE CHARGES FOR A 3/4" METER	BLOCK 1 MINIMUM CHARGE	BLOCK 2 CUSTOMERS	BLOCK 3 CUSTOMERS	BLOCK 4 CUSTOMERS	BLOCK 5 CUSTOMERS	BLOCK 6 CUSTOMERS
	0 to 3,000 Gal/Month	3,001 to 6,000	6,001 to 10,000	10,001 to 15,000	15,001 to 21,000	21,000 + Gal/Month
	Yearly Increase %	Yearly Increase %	Yearly Increase %	Yearly Increase %	Yearly Increase %	Yearly Increase %
2006 WATER RATES	$19.65/Month	$2.60/Month	$3.07/1,000 Gallons	$3.27/1,000 Gallons	$3.66/1,000 Gallons	$3.66/1,000 Gallons
2007 WATER RATES	$21.42/Month 9.0% over '06	$2.84/1,000 Gallons 9.2% over '06	$3.35/1,000 Gallons 9.1% over '06	$3.56/1,000 Gallons 8.9% over '06	$3.99/1,000 Gallons 9.0% over '06	$3.99/1,000 Gallons 9.0% over '06
2008 WATER RATES	$22.82/Month 6.5% over '07	$3.02/1,000 Gallons 6.3% over '07	$3.55/1,000 Gallons 6.0% over '07	$3.90/1,000 Gallons 9.6% over '07	$4.43/1,000 Gallons 11.0% over '07	$4.43/1,000 Gallons 11.0% over '07
2009 WATER RATES	$24.64/Month 8.0% over '08	$3.26/1,000 Gallons 7.9% over '08	$3.89/1,000 Gallons 9.6% over '08	$4.29/1,000 Gallons 10.0% over '08	$4.87/1,000 Gallons 9.9% over '08	$5.36/1,000 Gallons 19.1% over '08

NOTES: The Block 6 was not implemnented until 2009. Before 2009, the Block 6 Rate equalled the Block 5 Rate.

Table G-8-1
Projected Savings with Revision to Landscaping Standards

YEAR	NUMBER OF COMMERCIAL PARTICIPANTS	COMMERCIAL SAVINGS/YEAR (Gal/Participant)	EST. COMMERCIAL SAVINGS (Gal/Year)	NUMBER OF RESIDENTIAL SUBDIVISION LOTS	RESIDENTIAL SAVINGS/YEAR (Gal/Lot)	EST. RESIDENTIAL SAVINGS (Gal/Year)	EST. TOTAL SAVINGS (Gal/Year)	CUMULATIVE SAVINGS (Gal/Year)
2009	5	65,340	326,700	60	22,500	1,350,000	1,676,700	1,676,700
2010	15	65,340	980,100	350	22,500	7,875,000	8,855,100	10,531,800
2011	15	65,340	980,100	400	22,500	9,000,000	9,980,100	20,511,900
2012	15	65,340	980,100	400	22,500	9,000,000	9,980,100	30,492,000
2013	15	65,340	980,100	400	22,500	9,000,000	9,980,100	40,472,100
5-Year TOTALS	65 Total Commercial Participants		4,247,100 Commercial Savings, 2009-2013	1610 Total Residential Participants		36,225,000 Residential Savings, 2009-2013	40,472,100 Total Savings 2009-2013	103,684,500 Gallons Saved 2009-2013

NOTES: The estimated Total Irrigation for this area would be for an equivalent site area that had conventional landscaping installed.
This is based on a 20-week irrigation volume of 15 gallons per square foot of turfed area (per the Southeastern Colorado Water Conservation District's - SECWCD - Lawn Watering Guide).
The Irrigation Demand for Low-Demand Landscaping over the 20-week irrigation period is, according to the SECWCD Lawn Watering Guide, 12 gallons per square foot.
The potential Projects over the next five years are based on the Water Rate Planning.
The Average Commercial/Industrial Site will have a Landscaped Area of 0.5 Acres.
The Average Residential Subdivision Lot will have a Landscaped Area of 0.17 Acre (7,500 Square Feet)

TABLE G-9-1.1
ESTIMATED SAVINGS FOR INCENTIVES

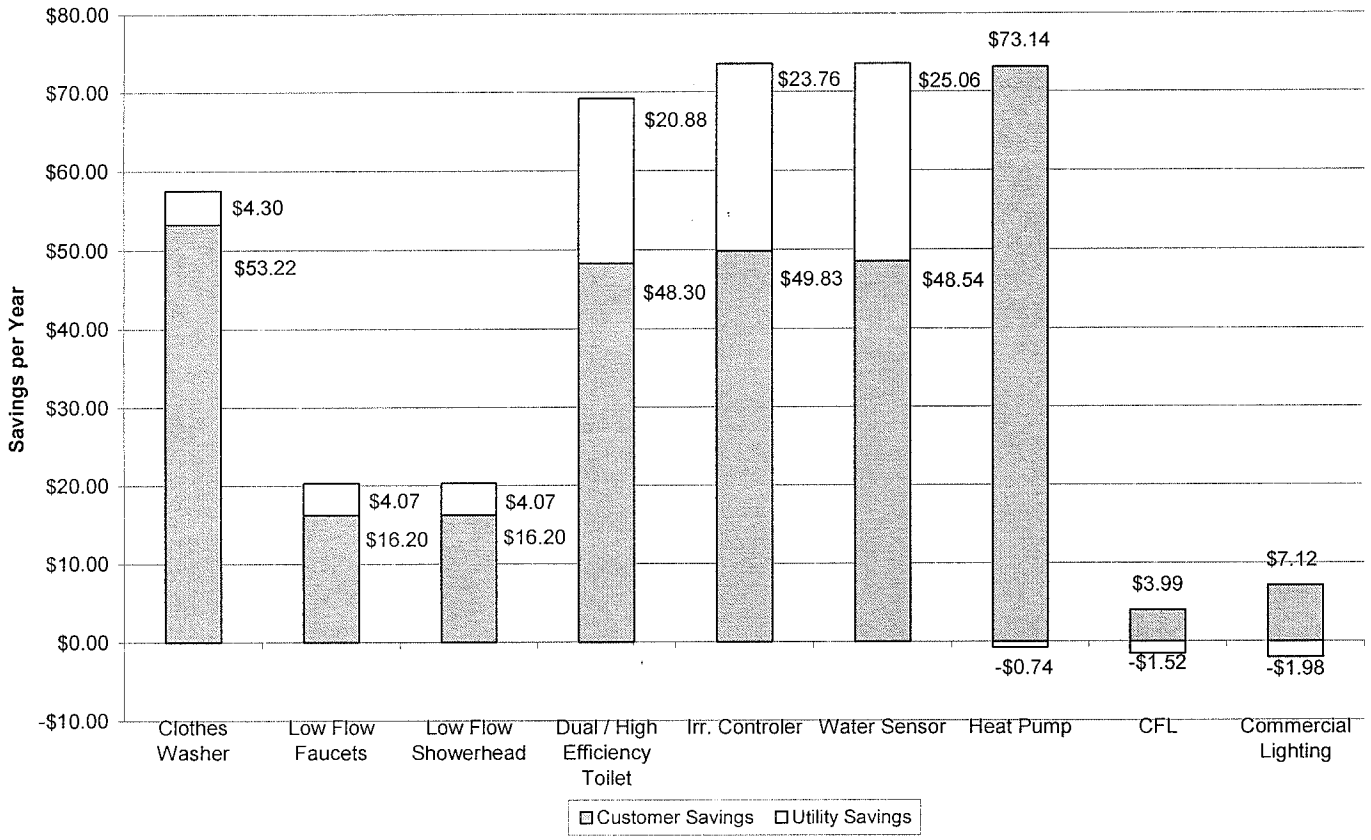

Table G-9-1.2
Incentives Savings (Projected)

YEAR	FAUCETS REPLACED	SHOWERHEADS REPLACED	TOILETS REPLACED	IRR. CONTROLLERS INSTALLED	ESTIMATED TOTAL VOLUME SAVED (Gal/Year)	CUMULATIVE VOLUME SAVED (Gal/Year)
2009	30	30	10	10	427,000	427,000
2010	50	50	30	20	811,000	1,238,000
2011	75	75	45	30	1,216,500	2,454,500
2012	100	75	45	30	1,254,000	3,708,500
2013	125	75	45	30	1,291,500	5,000,000
5-Year TOTALS	380 Total Faucets Replaced 2009-13	305 Total Showerheads Replaced 2009-13	175 Total Toilets Replaced 2009-13	120 Total Controllers Installed 2009-13	5,000,000 Total Savings 2009-2013	12,828,000 Gallons Saved Saved 2009-13

The estimated savings in water volume is based on the published information in the Handbook of Water Use and Conservation, by Amy Lucille Vickers, First Edition, 2001, published by WaterPlow Press. The reference is identified as "Vickers."

Faucet Replacement Calculations: Residential application will be targeted, with replacement of existing units that allow over 3.0 gallons per minute with current 2.2 gpm units. Each series of faucets replaced is a household is estimated to (consevatively) save 1,000 to 2,000 gallons per year (reference: Vicker, Table 2.15). For this estimate, 1,500 gpy is incorporated into Table G-9-1-2
For this estimate, each household will replace three faucets.

Showerhead Replacement Calculations: Residential application for this incentive option will be the target for the initial implementation. The AWWA publication The Water Conserrvation Manager's Guide to Residential Retrofit presents the following algorithm:

$$(S_a - S_b) \times M \times C = D$$

S_a: Existing Showerhead Flow Rate in gallons per minute (gpm)

S_b: Replacement Showewrhead Flow Rate in gpm

M: Average Number of Minutes per Shower

C: Average Number of Showers per Year

For this estimate, Sa will be 4.0 gpm, Sb will be 2.5 gpm, M will equal 5 minutes and C will be 700.

Toilet Replacement Calculations: The savings estimate for this application assumes that incentives will address residential toilet replacement and that the replacement fixtures will be more efficient that the code-mandated 1.6 gallers per flush (gpf) units. Dual flush or early closeure devices will be the target retrofit devices, only using 1.0 gpf and replacing toilets that use (on average) 4.5 gpf. The per unit savings (per year) estimate is based on 300 flush cycles per year.

Irrigation Controller Calculations: As with the other three potential incentive elements, this will address residential landscape irrigation. Weekly irrigation at residential areas on lots withh 4,000 square feet for 20 weeks per year could average around 7,000 gallons per week (irrigating 3 inches rainfall equivalent). By increasing the efficiency to only require 2.5 inches per week, the water savings per week would be about 1,000 gallons per week (gpw). Reference: Vickers, Table 3.5.

Table Savings-1
City of Fountain Present Water Conservation Savings

	(1)	(2)	(3)	(4)	(5)
Years	**Average Total Water Use (acre-ft per yr)**	**Average Service Area Population**	**Average Per Capita Use (gpd)**	**Percent Savings**	**Savings (acre-ft per yr)**
1991-96	1,629	10,000	145		
2003-07	2,569	17,875	128	12	340

Notes:
Col 1 = total measured deliveries into Fountain's distribution system (including system losses).
Col 2 = estimated City population minus population that is outside Fountain's water service area.
Col 3 = (Col 1/Col 2) x (43,560 ft^2/acre) x (7.481 gal/ft^3) x (yr/ 365 days)
Col 4 = (145 gpcd-128 gpd) / 145 gpcd x 100
Col 5 = (145 gpcd-128 gpcd) x 17,875 people x (365 days/yr) x (ft^3/7.481 gal) x (acre/43,560 ft^2)

References:
1. *City of Fountain Water Supply Analysis* by W. W. Wheeler and Associates (Dec. 1996).
2. Water use and service area population estimates from 2003-2007 (see report introduction).

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Table Savings-2
City of Fountain, Colorado Water Conservation Plan
Additional Future Savings During 5-Year Planning Horizon[1]

Measure / Progam and Goal	2009		2010		2011		2012		2013		5-Year Totals	
	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Total Gal Saved 2009-2013	Total Acre-Ft Saved 2009-2013
Water Efficient Fixtures and Appliances Goal 1 - Implement 2003 IPC	737,500	2.3	2,375,000	7.3	4,237,500	13.0	6,100,000	18.7	7,962,500	24.4	21,412,500	65.7
Water Efficient Fixtures and Appliances Goal 2 - City Buildings	58,500	0.2	78,500	0.2	98,500	0.3	118,500	0.4	138,500	0.4	492,500	1.5
Low Water Use Landscapes and Efficient Irrigation Goal 1 - Plant List[2]												
Low Water Use Landscapes and Efficient Irrigation Goal 2 - Low-Irrigation Turf[2]												
Low Water Use Landscapes and Efficient Irrigation Goal 3 - Xeriscape	87,120	0.3	174,240	0.5	261,360	0.8	348,480	1.1	435,600	1.3	1,306,800	4.0
Low Water Use Landscapes and Efficient Irrigation Goal 4 - Water Returns	36,000	0.1	54,000	0.2	72,000	0.2	90,000	0.3	108,000	0.3	360,000	1.1
Water-Efficient Industrial and Commercial Water-Using Processes, Goal 1 - Assess Individual User Needs	771,500	2.4	1,913,000	5.9	2,684,500	8.2	3,826,000	11.7	4,597,500	14.1	13,792,500	42.3
Water Reuse Systems Goal 1 - Reuse of Return Flows[3]												
Distribution System Leak Identification and Repair Goal 1 - Leak Detection Program[2]												
Distribution System Leak Identification and Repair Goal 2 - Water Main Replacement	21,900	0.1	29,200	0.1	36,500	0.1	43,800	0.1	51,100	0.2	182,500	0.6
Distribution System Leak Identification and Repair Goal 3 - Fire Hydrant, Saddle, and Meter Replacement	38,325	0.1	76,650	0.2	114,975	0.4	153,300	0.5	191,625	0.6	574,875	1.8
Distribution System Leak Identification and Repair Goal 4 - Design and Construction Specifications[2]												
Dissemination of Information Goal 1 - Provide Information in UtiliNews Newsletter[2]												
Dissemination of Information Goal 2 - Provide Information on City's Web Site[2]												
Dissemination of Information Goal 3 - Hard Copy Brochures[2]												
Dissemination of Information Goal 4 - Meet with HBA of Colroado Springs[2]												
Water Rate Structures and Billing Systems Goal 1 - Review Water Rate Structure[2]												
Water Rate Structures and Billing Systems Goal 2 - Hardship Schedule for Tap Fees[2]												
Water Rate Structures and Billing Systems Goal 3 - Non-Potable Supply for Construction Use[4]												
Regulatory Measures Goal 1 - Revise Section 17.370 of the Zoning Regulations	1,676,700	5.1	10,531,800	32.3	20,511,900	62.9	30,492,000	93.6	40,472,100	124.2	103,684,500	318.2
Regulatory Measures Goal 2 - Develop Water Conservation Measures with HBA[2]												
Regulatory Measures Goal 3 - Water Waste Ordinance[2]												
Incentives to Implement Water Conservation Goal 1 - Incentives Program	427,000	1.3	1,238,000	3.8	2,454,500	7.5	3,708,500	11.4	5,000,000	15.3	12,828,000	39.4
Incentives to Implement Water Conservation Goal 2 - Conservation and Supply Manager[2]												
Non-Potable Supplies Goal 1- Non-Potable Supply for Construction Uses[4]												

Table Savings-2
City of Fountain, Colorado Water Conservation Plan
Additional Future Savings During 5-Year Planning Horizon[1]

Measure / Progam and Goal	2009		2010		2011		2012		2013		5-Year Totals	
	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Cumulative Savings (gal per yr)	Cumulative Savings (acre-ft per yr)	Total Gal Saved 2009-2013	Total Acre-Ft Saved 2009-2013
Non-Potable Supplies Goal 2 - Non-Potable Supply for Irrigation Uses[5]												
Keeton Reservoir Delivery Pipeline Goal 1 - Maintain Pipeline[6]												
Additional Savings for All Measures and Programs	**3,854,545**	**11.8**	**16,470,390**	**50.5**	**30,471,735**	**93.5**	**44,880,580**	**137.7**	**58,956,925**	**180.9**	**154,634,175**	**474.5**

Notes:

[1]The estimates in this table do not include savings that have already been achieved.

[2]The savings attributable to this goal was not quantified or assigned.

[3]Approximately 708 acre-feet (231 million gallons) per year of return flows are delivered back into Fountain's distribution system. This savings does not reduce Fountain's total demand, but instead allows a portion of that demand (708 acre-feet per year) to be satisfied with water that has been previously delivered to its customers. As a result, the savings from this goal is not counted toward the overall demand reduction under the water conservation plan.

[4]Up to 10,000,000 gallons (31 acre-feet) per year will be used for non-potable construction purposes, but any reduction to Fountain's total demand resulting from this goal is not counted toward the overall demand redution under the water conservation plan.

[5]Approximately 51,000,000 gallons (156 acre-feet) will be used for non-potable irrigation purposes, but any reduction to Fountain's total demand resulting from this goal is not counted toward the overall demand reduction under the water conservation plan.

[6]Approximately 180 acre-feet per year (59 million gallons) are delivered through the Keeton Pipeline to Fountain Creek. The deliveries do not decrease Fountain's total demand, but instead increase the augmentation supply that can support the City's well pumping. As a result, the savings from this goal is not counted toward the overall demand reduction under the water conservation plan.

Table Savings-3
City of Fountain, Colorado Water Conservation Plan
Demand Reduction During 5-Year Planning Horizon

		2009	2010	2011	2012	2013
1	Demand without Water Conservation (acre-ft per year)	5,748	6,285	6,594	6,904	7,214
2	Present Level of Savings (percent)	12	12	12	12	12
3	Present Level of Savings (acre-ft per year)	690	754	791	828	866
4	Additional Future Savings (acre-ft per year)	12	51	94	138	181
5	Total Reduction to Demand (acre-ft per year)	702	805	885	966	1,047
6	Demand with Water Conservation Plan (acre-ft per year)	5,046	5,480	5,709	5,938	6,167
7	Total Reduction to Demand (percent)	12	13	13	14	15

Line 1 = demand without any existing or future water conservation measures and programs (from 2006 Water Master Plan).
Line 2 = 12 percent (from Table Savings-1)
Line 3 = line 1 x line 2 / 100
Line 4 = additional reduction to Fountain's total demand by implementation of the updated water conservation plan (from Table Savings-2). This value does not include savings that have already been achieved.
Line 5 = line 3 + line 4
Line 6 = line 1 - line 5
Line 7 = line 5 / line 1 x 100

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APPENDIX A

CITY OF FOUNTAIN
WATER SERVICE AREA BOUNDARY

General Vicinity Map
City of Fountain
Water Service Area

City of Fountain

Water Service Area

0 2 Miles

APPENDIX B

EXCERPTS FROM THE 2006 MASTER PLAN

APPENDIX B-1

2006 WATER MASTER PLAN
EXECUTIVE SUMMARY

BLACK & VEATCH
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ENERGY WATER INFORMATION GOVERNMENT

2006 Water Master Plan

Prepared for:
City of Fountain
116 South Main Street
Fountain, Colorado 80817

Prepared by:
Black & Veatch Corporation
6300 South Syracuse Way
Suite 300
Centennial, Colorado 80111

Project 143418.200
March 2007

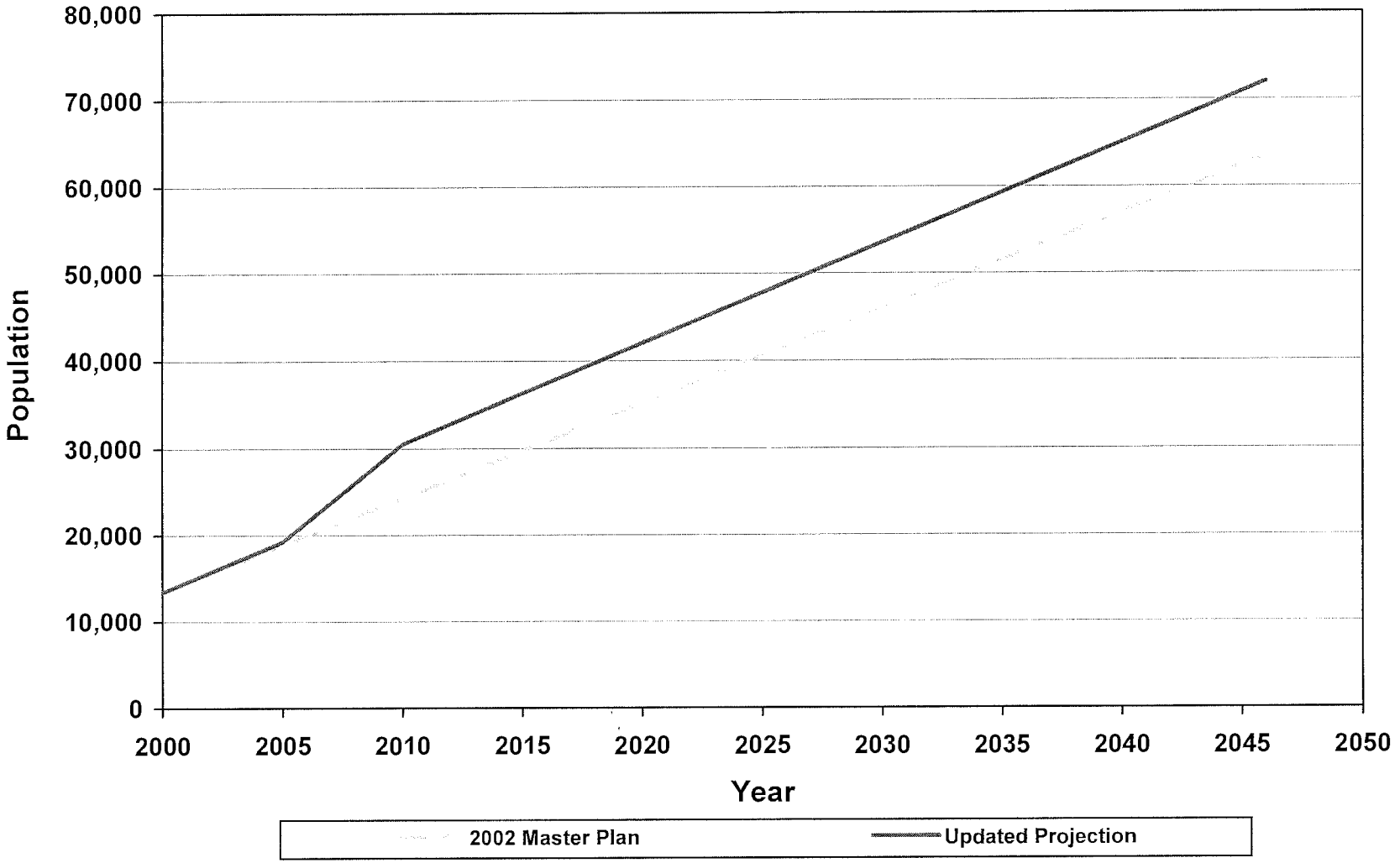
Executive Summary

This Water Master Plan (Master Plan) has been developed to assist the City of Fountain (City, Fountain) with the long-range planning of its water supply, treatment and distribution systems. The intent of this plan is to provide an assessment of the City's water supply needs through the year 2046. In addition, this plan identifies water supplies and treatment, as well as improvements to the distribution system to meet existing and future demands based on anticipated growth within the current service areas and surrounding areas that are likely to be served by the City in the future. This summary is organized by the following sections:

A. Population Projections
B. Future Water Requirements
C. Existing Water Supplies
D. SDS Participation Evaluation
E. Local Water Supply Alternatives
F. Distribution System Analyses
G. Recommended Capital Improvements Plan
H. Reduced Levels of Service
I. Next Steps

A. Population Projections

Development of an effective Master Plan begins with an evaluation of the historic population trends and projected growth patterns within the service area. Table ES-1 provides a summary of the population projections previously presented in the 2002 Water System Master Plan report and the adjustments made as a result of a report published in 2004 by Crowley Consulting and the announcement made by the United States government to station additional personnel at Fort Carson. Table ES-1 also shows the service area population projections that were used in this Master Plan to determine future water requirements within the City's service area. Both sets of projections are shown graphically on Figure ES-1.



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City of Fountain, Colorado – Water Supply Plan

Population Projections

Figure ES-1

Table ES-1

Service Area Population Projections

Year	City of Fountain		Adjustments		Water Service Area	
	2002 Master Plan	Crowley Consulting[1]	Baseline Revision[2]	Fort Carson[3]	2002 Master Plan[4]	Updated Projection[5]
2000	15,197	15,197	0	0	13,370	13,370
2005	20,650	21,000	350	0	18,850	19,200
2010	26,096	26,800	704	5,500	24,300	30,500
2015	31,548	32,591	1,043	5,500	29,750	36,300
2020	37,000	38,382	1,382	5,500	35,200	42,000
2046	65,350	68,495	3,145	5,500	63,540	72,000

[1] Year 2015 value from Oct 2004 Crowley report; other values interpolated and extrapolated accordingly.

[2] Difference between updated projection by Crowley Consulting and the 2002 Water System Master Plan value.

[3] Anticipated number of Fort Carson personnel and family members who will reside in Fountain.

[4] City of Fountain population minus residents receiving water service from Widefield or Security.

[5] 2002 Water System Master Plan projection adjusted to reflect baseline revision and Fort Carson effect.

B. Future Water Requirements

Although a 20-year planning period is generally adequate for sizing most water system facilities, it is often considered prudent to look more than 20 years into the future when planning major components such as water supply and treatment facilities, principal pumping stations and reservoirs, and large-diameter transmission mains. This longer-range view helps to ensure that the water supply will be adequate for the foreseeable future and also serves to minimize the possibility that major water system facilities will have to be duplicated or paralleled within a few years of their construction.

Table ES-2 presents water demand projections based on historic water usage through the year 2046. However, due to recent efforts by the City to encourage water conservation through public education and an inclining rate

structure, current demands are lower than anticipated. The City also intends to implement additional measures in the near future to encourage water conservation. Based on this information, water demand projections were developed that consider the impact of current and future conservation. These projections are shown in Table ES-3 and assume a reduction in residential average day water demands of approximately 20 percent.

Table ES-2

Annual Water Demand Projections through 2046 (without Conservation)

Year	Annual Average Day		Maximum Day
	(ac-ft/yr)	(mgd)	(mgd)
2006	4,139	3.7	9.5
2011	6,594	5.9	15.1
2016	8,116	7.2	18.5
2021	9,540	8.5	21.8
2026	11,002	9.8	25.2
2031	12,464	11.1	28.5
2036	13,925	12.4	31.9
2041	15,327	13.7	35.1
2046	16,488	14.7	37.8

Table ES-3

Annual Water Demand Projections through 2046 (with Conservation)

Year	Annual Average		Maximum Day
	(ac-ft/yr)	(mgd)	(mgd)
2006	3,311	3.0	7.6
2011	5,276	4.7	12.1
2016	6,493	5.8	14.8
2021	7,632	6.8	17.5
2026	8,802	7.9	20.1
2031	9,971	8.9	22.8
2036	11,140	9.9	25.5
2041	12,262	10.9	28.1
2046	13,191	11.8	30.2

C. Existing Water Supplies

Water for the City's potable water system comes from two main sources; surface water and well water. In general, surface water is used as the City's primary supply, and the well water is used to supplement during periods of higher demand.

Surface water is obtained through participation in the Fountain Valley Authority (FVA) system. On an annual basis, this supply accounts for the majority (approximately 75 percent) of the City's water. Because the FVA water supply is not sufficient to meet all of Fountain's water needs, the City routinely supplements with water pumped from wells. The City owns and operates five wells located in the downtown area. In general, these wells are relatively small with capacities ranging from 350 to 750 gallons per minute (gpm). This is equivalent to a total pumping capacity of 4.3 mgd and a firm pumping capacity (largest well offline) of 3.2 mgd. However, in recent years, the City has experienced reduced yield from these wells due to lower groundwater levels. Water from these wells is disinfected before being pumped directly into the distribution system.

D. SDS Participation Evaluation

Previous studies have focused on the use of water from the proposed Southern Delivery System (SDS) to meet long-term projected increases in water demand. As currently envisioned, Fountain's level of participation in the SDS project will be 2,500 ac-ft per year, which is equivalent to an annual average delivery rate of 2.2 mgd. However, Fountain may be able to obtain up to 5.6 mgd of SDS water during periods of high demand.

Several studies to develop and evaluate water supply scenarios that utilize SDS water have been completed. Since the City's participation in and timing of SDS is uncertain, two scenarios (C and D) were carried forward for consideration in the report, as described below:

- **Scenario C:** Future water demands would be met by utilizing 2,500 ac-ft/yr of SDS water. The remaining demand would be met with local supplies (wells).

- **Scenario D:** Future water demands would be met by utilizing local supplies (wells). Under this scenario, the City would not participate in SDS.

An evaluation was completed to determine the financial impact of the City's participation in SDS versus developing additional local supplies. For this evaluation, it was assumed that if the City does not participate in SDS, it will need to develop 2.2 mgd of water with similar treated water quality utilizing local groundwater. This water will require treatment due to high total dissolved solids (TDS) concentrations. Costs for 2 mgd of additional reverse osmosis (RO) treatment and brine disposal were also included in the evaluation, which assumes low quality wells and therefore, a low RO bypass ratio. Three alternatives were developed for brine disposal. These alternatives include:

- Drying beds. Brine would be sent to lined drying beds for evaporation.
- Zero liquid discharge (ZLD) located near a power plant. Brine would be sent to concentrators to evaporate the water. The heat required for this process would be provided by the waste heat produced by the power plant. The concentrated salt would be sent to a landfill for disposal.
- ZLD not located near a power plant. Brine would be sent to concentrators to evaporate the water. The heat required for this process would be provided by electricity. The concentrated salt would be sent to a landfill for disposal.

Table ES-4 shows the cost comparison for the City's participation in SDS versus no participation for the years 2015 (when SDS is expected to come online) through 2046.

Table ES-4

Evaluation of City's Participation in SDS versus Developing Local Supplies

Cost Component	Cost for 2.2 mgd of Treated Water			
	SDS Participation	Wells/RO Treatment w/ Drying Beds	Wells/RO Treatment w/ ZLD Near Power Plant	Wells/RO Treatment w/ ZLD Not Near Power Plant
Capital cost opinion	$26,000,000	$20,000,000	$20,000,000	$20,000,000
O&M cost opinion[1]	$29,000,000	$28,000,000	$38,000,000	$69,000,000
Total cost opinion	$56,000,000	$48,000,000	$58,000,000	$88,000,000

[1]Total O&M for years 2015 – 2046.

The cost opinion for the City's participation in SDS is of the same order of magnitude as that for developing wells and RO treatment utilizing either drying beds or ZLD near a power plant for brine treatment. Therefore, it is recommended that the City continue to pursue participation in SDS and budget accordingly. If the SDS project does not move forward, the City can use those funds to develop additional local supplies.

E. Local Water Supply Alternatives

Three water supply alternatives and one sub-alternative were developed to meet interim and ultimate water demands. The alternatives developed as part of this Master Plan focus on utilizing additional wells to meet future water demands in addition to existing FVA and well supplies, and water from SDS.

It is recommended that the City acquire existing wells with demonstrated yields and re-drill them as necessary to meet municipal requirements. The northern part of the City has relatively high water quality wells that can be chlorinated and pumped directly into the distribution system without additional treatment. It is recommended that the City acquire and develop some of these northern wells, as identified below.

Since the number of wells required to meet future demands exceeds the expected supply associated with the available northern wells, it is recommended that the City acquire and/or develop additional wells in the southern part of the City. The quality of the well water in the southern portion of the City is poor with respect to TDS (average 700 to 1,500 mg/L). Consequently, these alternatives include treatment of the groundwater.

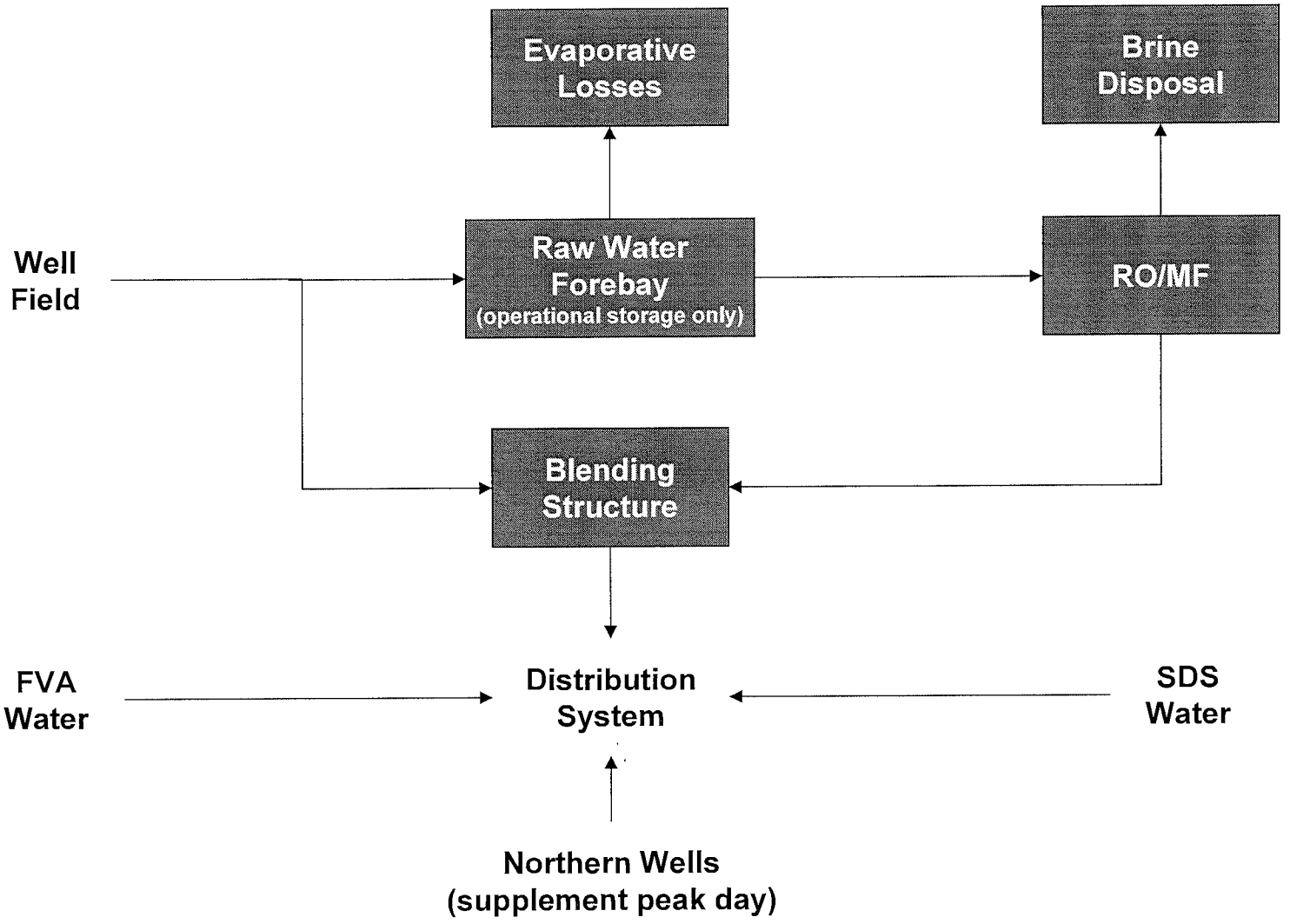
1. Alternative 1 – Pump Wells to Meet Maximum Day Demands

Under Alternative 1, as summarized in Table ES-5, the City would utilize wells and reverse osmosis/microfiltration (RO/MF) treatment to meet maximum day demands. Figure ES-2 shows a schematic representation of Alternative 1.

Table ES-5

Alternative 1 Components

Year	Project Description
2007	Develop 4 northern wells and 1 southern well
2008	Develop 2 northern wells and 4 southern wells 1.5 mgd temporary RO/MF treatment facility online
2009	Develop 1 northern well and 1 southern well
2010	Develop 2 southern wells
2011	Develop 1 southern well 10 mgd permanent RO/MF treatment facility online Decommission temporary RO/MF treatment facility
2012	Develop 1 southern well
2013	Develop 3 southern wells Augmentation reservoir online
2014	Develop 1 southern well Turn over two Ventucci wells to Widefield and Security
2015	SDS online WTP forebay online
2019	Develop 3 southern wells
2021	Expand RO/MF treatment facility to 15 mgd
2022 – 2031	Develop 10 southern wells
2032	Expand RO/MF treatment facility to 20 mgd
2033 – 2046	Develop 13 southern wells



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Alternative 1 Schematic – Pump Wells to Meet Maximum Day Demands

Figure ES-2

2. Alternative 2 – Pump Wells to Meet Average Day Demands and Provide Single Pass Treatment

Under Alternative 2, as summarized in Table ES-6, the City would pump wells at a constant rate equal to the annual average day demand and utilize storage and RO/MF treatment to meet maximum day demands. Figure ES-3 shows a schematic representation of Alternative 2.

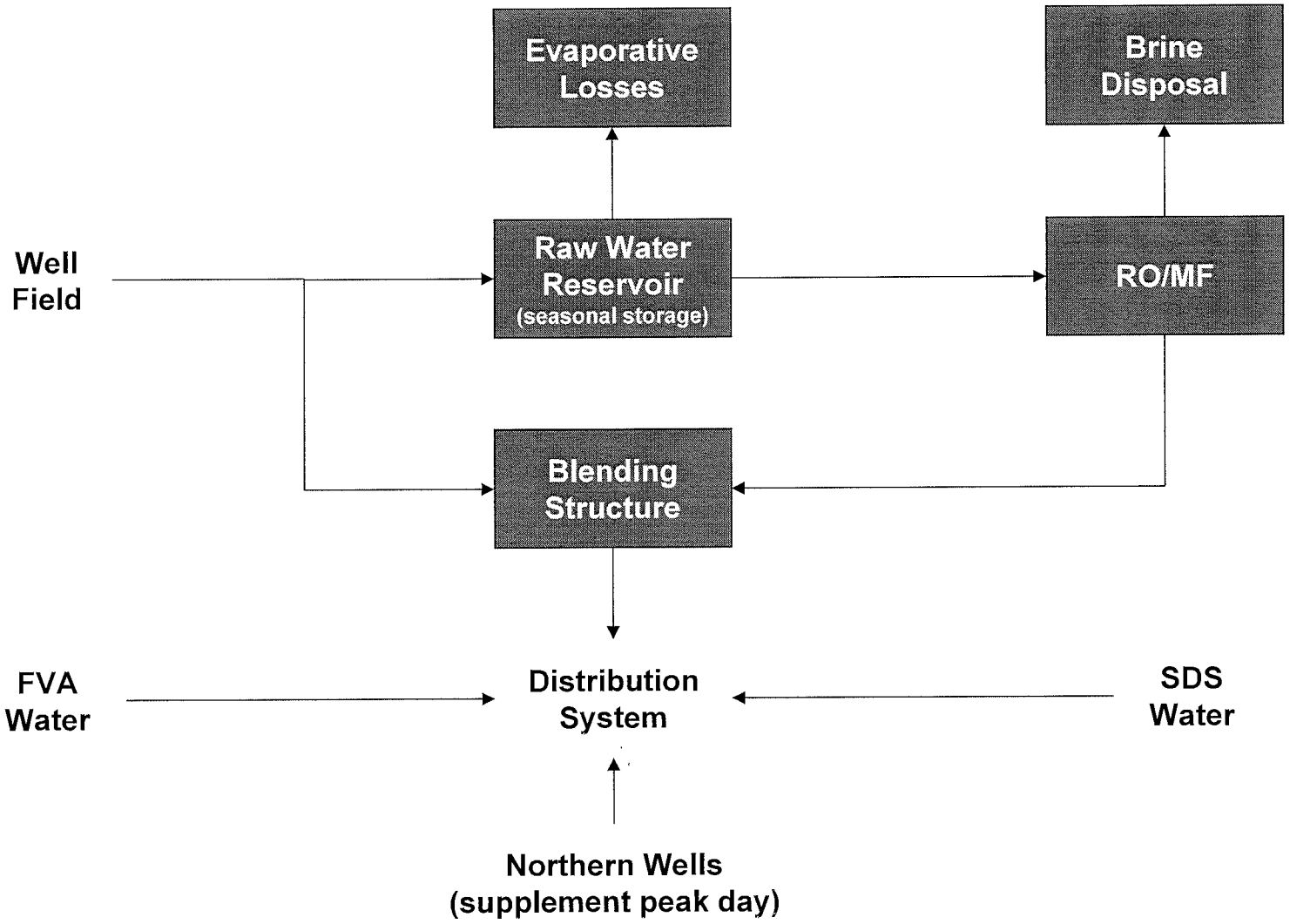
Table ES-6

Alternative 2 Components

Year	Project Description
2007	Develop 4 northern wells and 1 southern well
2008	Develop 2 northern wells and 4 southern wells 1.5 mgd temporary RO/MF treatment facility online
2009	Develop 1 northern well and 1 southern well
2010	Develop 2 southern wells
2011	Develop 1 southern well 10 mgd permanent RO/MF treatment facility online Decommission temporary RO/MF treatment facility
2012	Develop 1 southern well
2013	Develop 3 southern wells Augmentation reservoir online
2014	Develop 1 southern well Turn over two Ventucci wells to Widefield and Security
2015	SDS online Raw water storage reservoir online
2021	Expand RO/MF treatment facility to 15 mgd
2032	Expand RO/MF treatment facility to 20 mgd

3. Alternatives 3 and 3a – Pump Wells to Meet Average Day Demands and Provide Single Pass Treatment

Under Alternative 3, as summarized in Table ES-7, the City would pump wells and utilize RO/MF, all at a constant rate equal to the annual average day demand and utilize storage and additional microfiltration (MF) treatment to meet maximum day demands.



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City of Fountain, Colorado – Water Supply Plan

Alternative 2 Schematic – Pump Wells to Meet Average Day Demands and Provide Single Pass Treatment

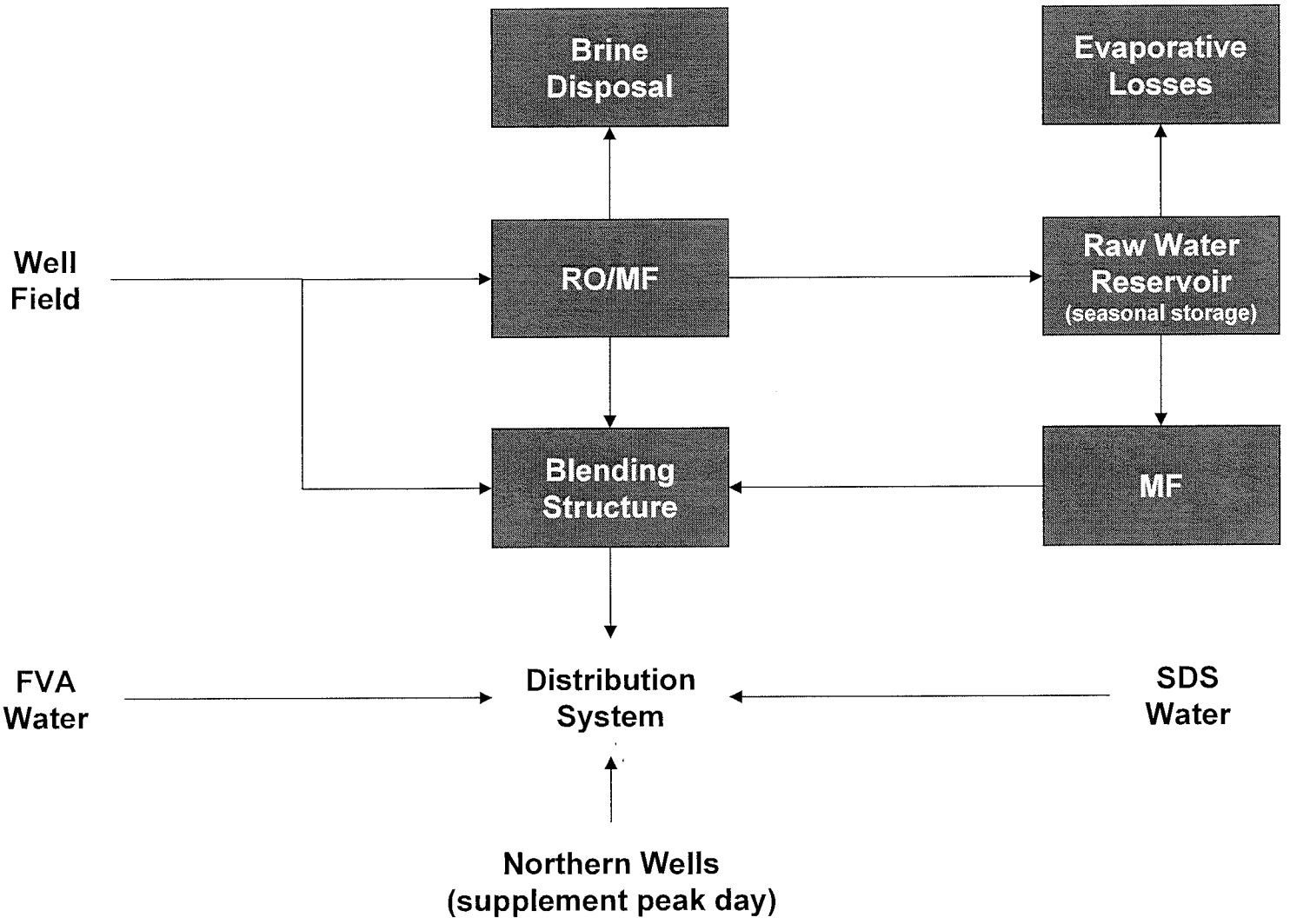
Figure ES-3

Table ES-7

Alternative 3 Components

Year	Project Description
2007	Develop 4 northern wells and 1 southern well
2008	Develop 2 northern wells and 4 southern wells 1.5 mgd temporary RO/MF treatment facility online
2009	Develop 1 northern well and 1 southern well
2010	Develop 2 southern wells
2011	Develop 1 southern well 4.0 mgd permanent RO/MF treatment facility online
2012	Develop 1 southern well
2013	Develop 3 southern wells Augmentation reservoir online
2014	Develop 1 southern well Turn over two Ventucci wells to Widefield and Security
2015	SDS online Raw water storage reservoir online
2018	15 mgd MF treatment facility online Decommission temporary RO/MF treatment facility
2029	Expand RO/MF treatment facility to 6.5 mgd
2031	Expand MF treatment facility to 20 mgd

A sub-alternative of Alternative 3 was also developed. This alternative has the same components as Alternative 3, but considers the impact of conservation on average day and maximum day demand projections. If the City opts to implement conservation measures, it can downsize the capacity of some water supply and treatment infrastructure. A reduction of 20 percent in average day and maximum day demands was assumed in developing this alternative. Table ES-8 provides a summary of the components associated with Alternative 3a. Figure ES-4 shows a schematic representation of Alternatives 3 and 3a.



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City of Fountain, Colorado – Water Supply Plan

Alternatives 3 and 3a Schematic – Pump Wells to Meet Average Day Demands and Provide Double Pass Treatment

Figure ES-4

Table ES-8 Alternative 3a Components	
Year	**Project Description**
2007	Develop 4 northern wells and 1 southern well
2008	Develop 2 northern wells and 4 southern wells 1.5 mgd temporary RO/MF treatment facility online
2009	Develop 1 northern well and 1 southern well
2010	Develop 2 southern wells
2011	Develop 1 southern well 4.0 mgd permanent RO/MF treatment facility online
2012	Develop 1 southern well
2013	Augmentation reservoir online
2014	Turn over two Ventucci wells to Widefield and Security
2015	SDS online Raw water storage reservoir online
2018	Expand RO/MF treatment facility to 5.0 mgd 10 mgd MF treatment facility online Decommission temporary RO/MF treatment facility
2029	Expand MF treatment facility to 15 mgd

4. Evaluation of Water Supply Alternatives

Unit costs were utilized to develop both capital and operation and maintenance (O&M) cost opinions for each alternative. Capital costs associated with each of the alternatives were divided into the following categories:

- Wells and Pump Stations
- Wellfield Pipelines
- Storage Reservoirs
- Water Rights
- Water Treatment
- SDS Participation

Table ES-9 provides a side-by-side comparison of the capital cost opinions for each water supply alternative.

Table ES-9

Capital Cost Comparison of the Proposed Water Supply Alternatives

Component	Capital Cost Opinion			
	Alternative 1	Alternative 2	Alternative 3	Alternative 3a
Wells and Pump Stations	$21,884,000	$11,484,000	$11,484,000	$9,884,000
Wellfield Pipelines	$21,170,000	$10,400,000	$10,400,000	$10,400,000
Storage Reservoirs	$6,750,000	$21,112,000	$21,112,000	$21,112,000
Augmentation Water Rights	$63,000,000	$53,600,000	$53,600,000	$42,900,000
Water Treatment and Brine Handling	$117,312,000	$117,312,000	$84,011,000	$65,224,000
SDS Participation	$26,447,000	$26,447,000	$26,447,000	$26,447,000
Total Capital Cost Opinion	**$256,563,000**	**$240,355,000**	**$207,054,000**	**$175,967,000**

O&M cost opinions were developed for each water supply alternative for the planning period 2006 through 2046. It is important to note that these costs are above and beyond the O&M costs that the City is currently experiencing. These costs have been developed based on the following categories:

- SDS
- Well Electricity
- Raw Water Pump Station Electricity and Maintenance
- Water Treatment and Brine Handling
- Pipeline Maintenance
- Storage Reservoir Maintenance

Table ES-10 summarizes the total O&M costs for years 2006 through 2046 associated with each of the alternatives. Annual O&M costs vary by year and generally increase with the addition of new facilities.

Table ES-10

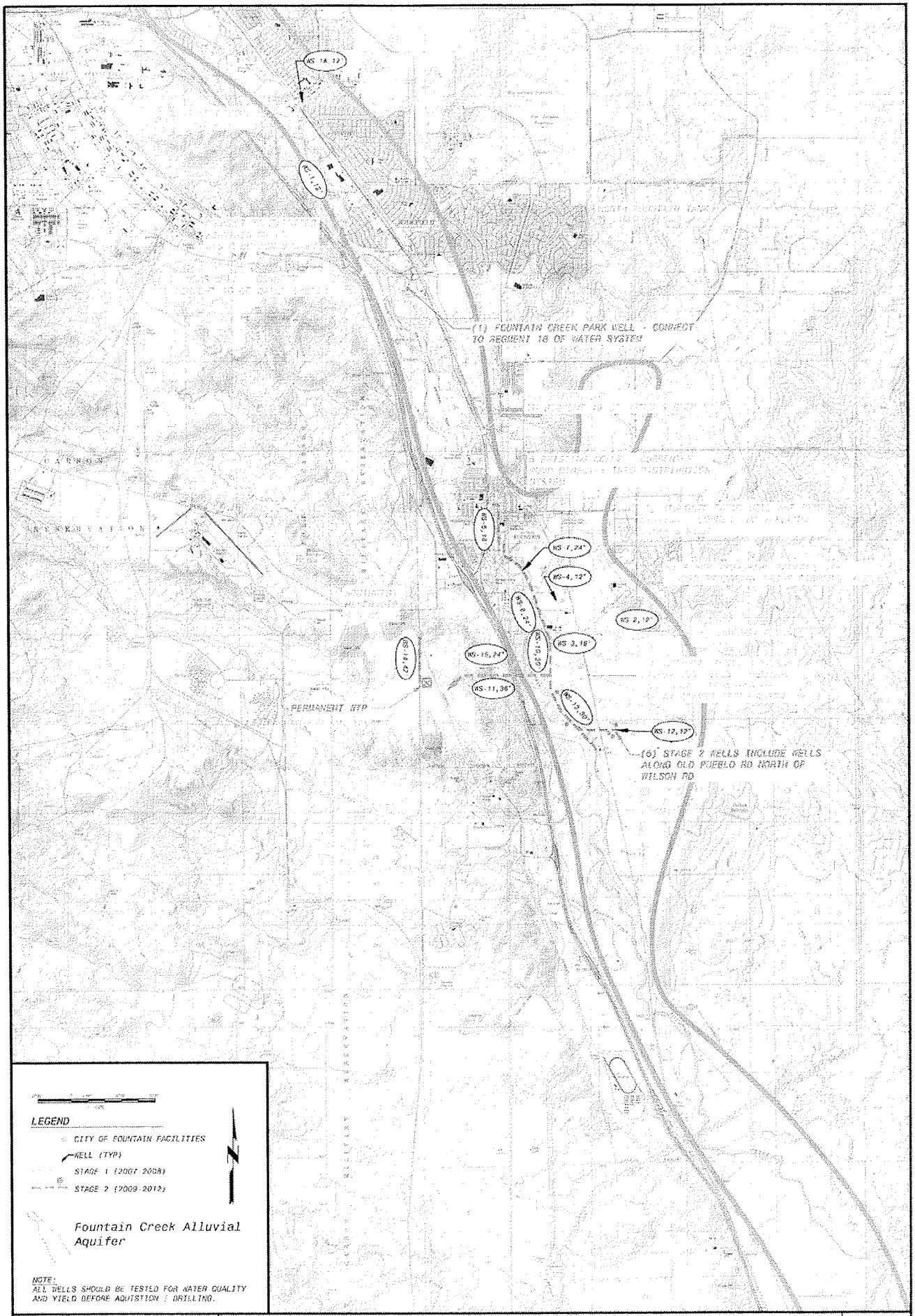
O&M Cost Comparison of the Proposed Water Supply Alternatives

Category	Total Cost (Years 2006 – 2046)			
	Alternative 1	Alternative 2	Alternative 3	Alternative 3a
SDS	$29,466,000	$29,466,000	$29,466,000	$29,466,000
Well Electricity	$19,481,000	$18,416,000	$18,907,000	$14,170,000
Pump Station Electricity and Maintenance	$25,627,000	$23,124,000	$13,596,000	$10,795,000
Water Treatment and Brine Handling	$244,659,000	$246,039,000	$142,028,000	$103,808,000
Pipeline Maintenance	$1,287,000	$767,000	$767,000	$767,000
Storage Reservoir Maintenance	$338,000	$871,000	$871,000	$871,000
Total	**$320,858,000**	**$318,683,000**	**$205,635,000**	**$159,877,000**

Based on the financial evaluation, it is recommended that the City implement Alternative 3a. Alternative 3a has the lowest capital cost opinion as well as the lowest projected O&M costs. Under this alternative, the City would implement conservation measures to reduce future water demands. The City would pump wells and utilize RO/MF at a constant rate equal to the annual average day demand and utilize storage and additional MF treatment to meet maximum day demands. Infrastructure improvements associated with Alternative 3a are shown on Figure ES-5.

F. Distribution System Analyses

In addition to evaluating the City's water supply, a hydraulic model was developed to analyze and evaluate the performance of the water distribution network under various demand and operating conditions. A series of analyses were conducted to identify potential deficiencies in the Fountain distribution



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Infrastructure Improvements Associated with Alternatives 3a

Figure ES-5

system, evaluate various combinations of improvements and modifications, and establish a recommended long-range capital improvement program to reinforce and expand the system as necessary to meet projected water demands and enhance operational flexibility. Deficiencies within the distribution system were identified, and a recommended long-range capital improvement program was developed, as described below and shown on Figure ES-6.

1. Pressure Zones

The existing pressure zones within the Fountain distribution system should be expanded as necessary to accommodate the projected growth areas. It is recommended that the operating gradient within the Little Ranches Zone be increased to about 5,820 feet so that it will be more nearly at the midpoint between the High and Low Zone gradients.

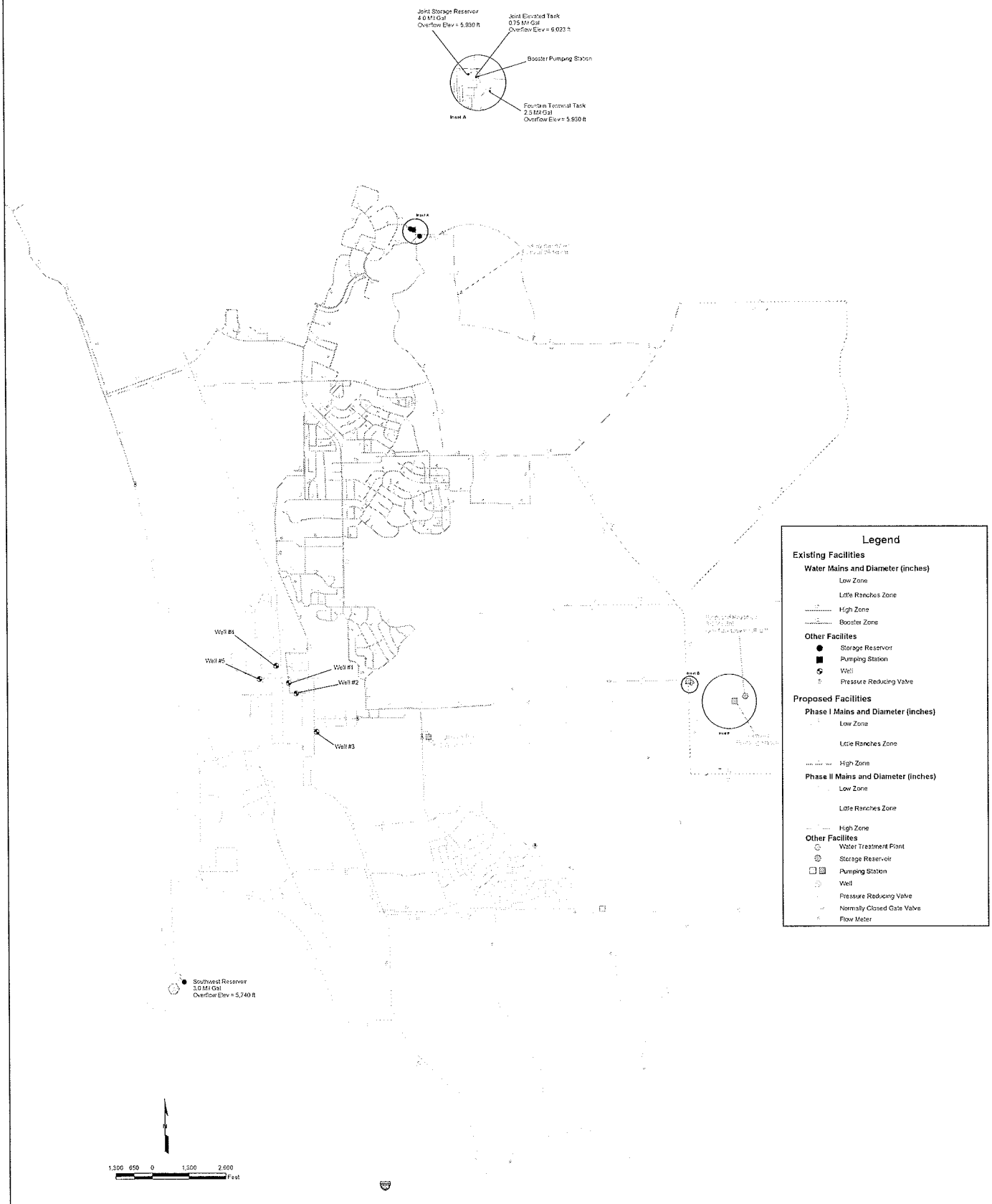
2. Storage Facilities

The existing storage facilities are adequate to meet the future requirements within the Low, High, and Booster pressure zones through the year 2020. It is recommended that a new 3.0 million gallon (MG) reservoir with an overflow elevation of 5,820 feet be constructed to serve the Little Ranches Zone. This reservoir should be located on the high ground near the intersection of Kane Road and the proposed Powers Boulevard extension. It is recommended that the reservoir be constructed by 2010 to provide peaking and emergency storage for customers in the Little Ranches Zone.

3. Pumping Stations

It is recommended that two new pumping stations be constructed; one along Wilson Road and one at the site of the proposed Kane Ranch Reservoir. These stations will be essential for transferring water from the proposed WTP into the higher service areas.

The proposed Wilson Road pumping station should be constructed by year 2011 at the boundary between the Low Zone and the Little Ranches Zone. Although the station should be designed to have an ultimate firm pumping capacity of about 16 mgd, it can initially be constructed with a capacity of about 6 mgd. The proposed Kane Ranch pumping station should be constructed by year 2017, and should be with a firm pumping capacity of about 11 mgd.



City of Fountain

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Water System Master Plan

Recommended Distribution System Improvements

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2006

Figure ES-6

4. Distribution Mains

In order to facilitate the budgeting and planning process, the recommended distribution system facilities have been grouped into two phases. Phase 1 facilities are recommended for construction by 2015 and Phase 2 facilities are recommended for construction after 2015.

The Phase 1 Improvements include major transmission mains in the Low Zone and a number of additional mains to reinforce the existing distribution network and to extend service into future growth areas. The Phase 1 transmission mains are needed to enhance the ability to convey water from the Southwest Reservoir to existing and future customers in future growth areas. The principle proposed Phase 1 transmission main is the 36-inch main in the Low Zone between the Southwest Reservoir and the site of the future booster pumping station along Wilson Road.

The Phase 2 Improvements include a number of mains to reinforce the existing distribution network and extend service to projected growth areas. It is recommended that a 30-inch main be constructed in the Little Ranches Zone along Wilson Road and the Powers Boulevard corridor between the Wilson Road booster pumping station and the Kane reservoir. In the High Zone, it is recommended that a 24-inch transmission main along the Powers Boulevard corridor be constructed between the Kane Ranch pumping station and C&S Road. These improvements will complete the sequence of mains needed to convey water from the proposed WTP into the Little Ranches and High Zones.

Because it is not possible to accurately predict the layout of the numerous local distribution mains within future developments and subdivisions, local main improvements were not identified as part of this study. However, in order to assist the City in sizing and laying out the local distribution mains within future developments, the following guidelines are provided:

- Install 12-inch mains as a minimum size on a mile grid.
- Use a minimum pipe size of 8-inches for any main extending more than 500 feet without cross-ties.
- Use minimum pipe sizes of 8 inches in commercial areas and 6-inches in residential areas.

- Wherever possible, eliminate dead-end mains to provide a more reliable looped network.

5. Fire Flow Considerations

A comprehensive fire protection evaluation was not included as part of this study. However, fire flow requirements were considered while performing the hydraulic analyses and the recommended distribution system facilities were sized to provide a reasonable degree of fire protection. Fire flow rates greater than 1,000 gpm will be generally obtainable throughout the distribution network, with significantly higher fire flow rates being available along the primary development corridors, where the larger-diameter distribution mains are located.

6. Capital Cost Opinion

Table ES-11 provides a summary of probable costs for the proposed Phase 1 and Phase 2 recommended distribution system improvements, including water mains, storage reservoirs, and flow control valves.

Table ES-11

Summary of Probable Costs for Distribution System Improvements

Phase	Recommended Improvements	Probable Cost ($)
Phase 1 (by 2015)	Water Transmission and Distribution Mains	13,370,000
	Fire Protection Upgrade (Upsize Ohio Ave with 8 inch main)	200,000
	Wilson Road Pumping Station	1,200,000
	3.0 mil gal ground storage reservoir	2,000,000
	PRVs and Flow control valves	350,000
	Phase 1 Total	**$ 17,120,000**
Phase 2 (after 2015)	Water Transmission and Distribution Mains	11,370,000
	Wilson Road Pumping Station Expansion	500,000
	Kane Ranch Pumping Station	1,000,000
	PRVs and Flow control valves	230,000
	Phase 2 Total	**$ 13,100,000**

G. Recommended Capital Improvements Plan

The capital and O&M costs associated with the recommended water supply and distribution system improvements were used to develop a staged CIP, as shown in Table ES-12.

Table ES-12

Staged CIP for the City's Recommended Water System Improvements[1]

Year	Capital Cost	O&M Cost[2]
2006	$4,885,000	$0
2007	$11,998,000	$93,000
2008	$13,577,000	$1,227,000
2009	$37,926,000	$1,319,000
2010	$16,995,000	$1,371,000
2011	$15,848,000	$2,644,000
2012	$13,386,000	$2,907,000
2013	$14,773,000	$3,172,000
2014	$3,601,000	$4,314,000
2015	$6,044,000	$4,862,000
2006 - 2015 Subtotal	**$139,033,000**	**$21,909,000**
2016 - 2020	$39,950,000	$19,458,000
2021 - 2030	$22,153,000	$38,072,000
2031 - 2046	$9,073,000	$85,615,000
2016 - 2046 Subtotal	**$71,176,000**	**$143,145,000**
Total	**$210,209,000**	**$165,054,000**

[1]Cost reflect 20 percent reduction in average and maximum day demand due to conservation.
[2]O&M costs are in addition to the City's current O&M costs.

H. Reduced Levels of Service

The recommended plan described above provides the City with a reliable water system capable of meeting anticipated water demands through the planning period. However, these recommendations require over 60 percent of the total capital improvements to be funded and constructed between 2007 and

2015 and the financial impacts may not be acceptable to the City. If the City cannot implement these recommendations due to financial limitations, reduced level of service alternatives could be considered.

The reduced level of service alternatives (Alternatives 3b and 3c) presented herein are based on the following criteria:

- Sufficient water supplies are provided to meet the same estimated maximum day water demands as for Alterative 3a.
- Water treatment facilities provided under the reduced level of service will enable the City to produce a blended water quality in the distribution system of less than 750 mg/L for TDS, instead of the Environmental Protection Agency (EPA) Secondary Guideline (recommended by not required) value of 500 mg/L.
- The blended water quality of 750 mg/L or less for TDS will be met for all demands equal to or less than 80 percent of the projected maximum day demand condition. During the highest demand periods, additional wells would be operated but the water treatment facilities would be by-passed resulting in slightly poorer water quality. Alternatively, water curtailment measures could be implemented to reduce the peak demands associated with dry summer days and meet the water quality target of 750 mg/L.
- After year 2020, facilities will be in place to meet the recommended target service levels (Alternative 3a).

Alternative 3b includes a revised implementation plan for water treatment and brine handling facilities assuming SDS participation. Alternative 3c includes a revised implementation plan for water treatment and brine handling facilities assuming no participation in SDS. Alternative 3c requires approximately $19.5 million in treatment between years 2006 and Years 2015.

Tables ES-13 and ES-14 provide a comparison of capital and O&M costs associated with the reduced service level alternatives compared to the recommended alternative, respectively.

Table ES-13

Comparison of Capital Costs For Recommended and Reduced Service Level Alternatives

Year	Alternative 3a	Alternative 3b	Alternative 3c
2006	$4,885,000	$4,885,000	$4,885,000
2007	$11,998,000	$9,875,000	$9,875,000
2008	$13,577,000	$13,070,000	$12,534,000
2009	$37,926,000	$13,308,000	$11,866,000
2010	$16,995,000	$14,791,000	$14,136,000
2011	$15,848,000	$14,528,000	$9,790,000
2012	$13,386,000	$13,386,000	$3,267,000
2013	$13,023,000	$14,773,000	$8,253,000
2014	$1,851,000	$3,601,000	$2,814,000
2015	$4,044,000	$6,044,000	$13,544,000
2006 - 2015 Subtotal	**$133,533,000**	**$108,261,000**	**$90,964,000**
2016 - 2020	$39,950,000	$53,405,000	$49,738,000
2021 - 2030	$22,153,000	$32,503,000	$47,803,000
2031 - 2046	$9,073,000	$9,073,000	$9,073,000
2016 - 2046 Subtotal	**$71,176,000**	**$94,981,000**	**$106,614,000**
Total	**$210,209,000**	**$203,242,000**	**$197,578,000**

Comments:

1. Alternative 3a provides a robust system that meets recommended EPA guidelines.
2. Alternative 3b provides reduced levels of service while Fountain continues to participate in SDS.
3. Alternative 3c provides reduced levels of service and no SDS participation.

Table ES-14

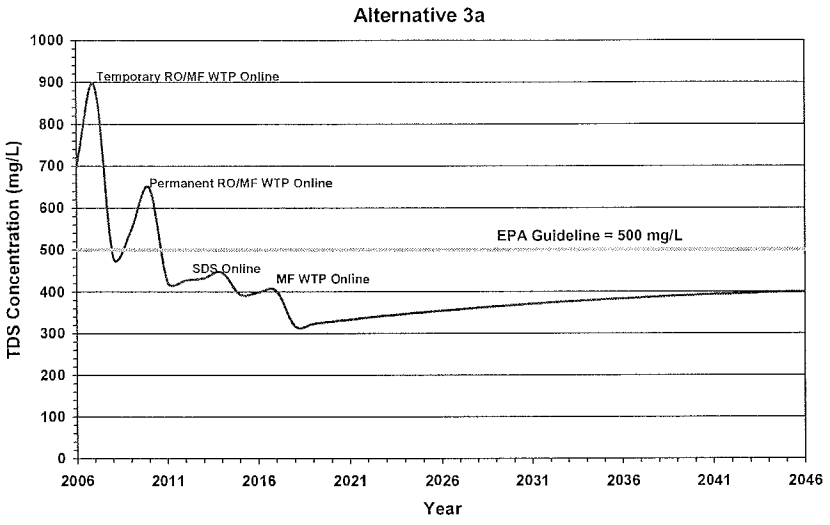
Comparison of O&M Costs For Recommended and Reduced Service Level Alternatives[1]

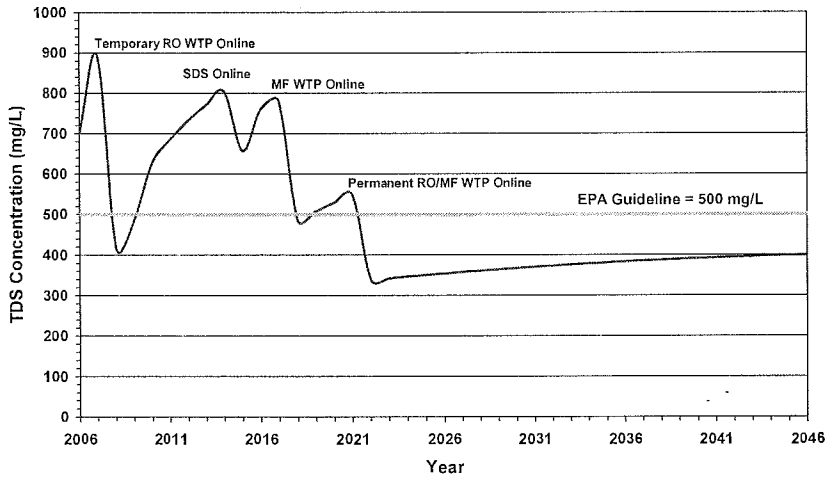
Year	Alternative 3a	Alternative 3b	Alternative 3c
2006	$0	$0	$0
2007	$93,000	$93,000	$93,000
2008	$1,227,000	$712,000	$712,000
2009	$1,319,000	$799,000	$799,000
2010	$1,371,000	$846,000	$846,000
2011	$2,644,000	$985,000	$985,000
2012	$2,907,000	$1,013,000	$1,013,000
2013	$3,172,000	$1,042,000	$1,042,000
2014	$4,314,000	$946,000	$1,403,000
2015	$4,862,000	$2,139,000	$2,011,000
2006 - 2015 Subtotal	**$21,909,000**	**$8,575,000**	**$8,904,000**
2016 - 2020	$19,458,000	$12,010,000	$12,034,000
2021 - 2030	$38,072,000	$37,199,000	$40,106,000
2031 - 2046	$85,615,000	$85,615,000	$88,869,000
2016 - 2046 Subtotal	**$143,145,000**	**$134,824,000**	**$141,009,000**
Total	**$165,054,000**	**$143,399,000**	**$149,913,000**

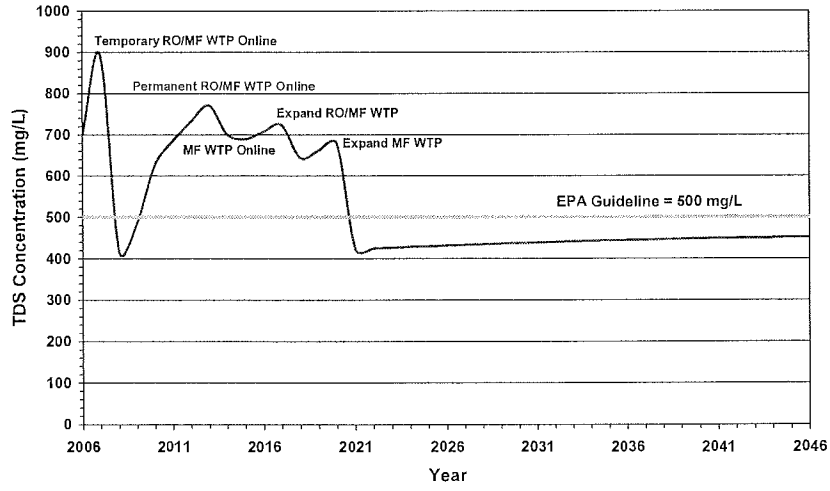
[1]O&M costs are in addition to the City's current O&M costs.

Table ES-14 shows that the O&M costs for Alternatives 3b and 3c are lower that 3a in early years. However, after year 2020, Alternative 3c has the highest O&M cost because it does not realize the benefits of the high quality SDS water.

Figure ES-7 shows the predicted distribution system water quality with respect to TDS concentrations throughout the planning period for Alternatives 3a, 3b, and 3c, respectively. For Alternative 3a, once the permanent RO/MF WTP is online, finished water TDS concentrations are expected to stay below EPA's Guideline of 500 mg/L. For Alternatives 3b and 3c, finished water TDS







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ENERGY WATER INFORMATION GOVERNMENT

City of Fountain, Colorado – Water Supply Plan

Predicted TDS Concentrations in the Distribution System for Alternatives 3a, 3b and 3c

Figure ES-7

concentrations are not expected to drop below EPA's Guideline of 500 mg/L until after 2020.

I. Next Steps

Assuming conservation measures are implemented, Fountain may utilize groundwater to meet as much as 90 percent of maximum day demands and 65 percent of annual demands by 2020 if the City does not participate in SDS. If the City elects to participate in SDS, its reliance on groundwater could still be as much as 77 percent during maximum day demand periods and 41 percent during average day demand periods. Therefore, it is imperative that an alluvium study be performed to confirm sufficient water is available to meet groundwater demands. In the fall of 2006, Harvey Economics evaluated the City's ability to fund the water plans presented herein and recommended the City implement Alternative 3b.

As discussed previously, RO treatment of the groundwater is required in order to meet water quality standards. RO treatment produces a brine stream that must be disposed of. The Colorado Department of Public Health and Environment requires the development of a Brine Management Plan to evaluate options for brine disposal prior to permitting. In addition, the brine handling costs discussed in this Master Plan are rough order-of-magnitude costs and should be defined further. Therefore, it is recommended that the City perform a treatability/brine handling study. These studies are scheduled to be completed the first half of 2007.

APPENDIX B-2

WATER DEMAND PROJECTIONS FROM 2006 WATER MASTER PLAN

Table 3-4

Annual Water Demand Projections through 2046 (without Conservation)

Year	Annual Average Day		Maximum Day
	(ac-ft/yr)	(mgd)	(mgd)
2006	4,139	3.7	9.5
2007	4,675	4.2	10.7
2008	5,212	4.7	11.9
2009	5,748	5.1	13.2
2010	6,285	5.6	14.4
2011	6,594	5.9	15.1
2012	6,904	6.2	15.8
2013	7,214	6.4	16.5
2014	7,523	6.7	17.1
2015	7,833	7.0	17.8
2016	8,116	7.2	18.5
2017	8,399	7.5	19.2
2018	8,682	7.8	19.8
2019	8,965	8.0	20.5
2020	9,248	8.3	21.2
2021	9,540	8.5	21.8
2022	9,832	8.8	22.5
2023	10,125	9.0	23.2
2024	10,417	9.3	23.8
2025	10,710	9.6	24.5
2026	11,002	9.8	25.2
2027	11,294	10.1	25.9
2028	11,587	10.3	26.5
2029	11,879	10.6	27.2
2030	12,171	10.9	27.9
2031	12,464	11.1	28.5
2032	12,756	11.4	29.2
2033	13,048	11.6	29.9
2034	13,341	11.9	30.5
2035	13,633	12.2	31.2
2036	13,925	12.4	31.9
2037	14,218	12.7	32.6
2038	14,510	13.0	33.2
2039	14,803	13.2	33.9
2040	15,095	13.5	34.6
2041	15,327	13.7	35.1
2042	15,559	13.9	35.6
2043	15,792	14.1	36.2
2044	16,024	14.3	36.7
2045	16,256	14.5	37.2
2046	16,488	14.7	37.8

Table 3-5

Annual Water Demand Projections through 2046 (with Conservation)

Year	Annual Average		Maximum Day
	(ac-ft/yr)	(mgd)	(mgd)
2006	3,311	3.0	7.6
2007	3,740	3.3	8.6
2008	4,170	3.7	9.6
2009	4,599	4.1	10.5
2010	5,028	4.5	11.5
2011	5,276	4.7	12.1
2012	5,523	4.9	12.6
2013	5,771	5.2	13.2
2014	6,019	5.4	13.7
2015	6,266	5.6	14.3
2016	6,493	5.8	14.8
2017	6,719	6.0	15.3
2018	6,946	6.2	15.9
2019	7,172	6.4	16.4
2020	7,398	6.6	16.9
2021	7,632	6.8	17.5
2022	7,866	7.0	18.0
2023	8,100	7.2	18.5
2024	8,334	7.4	19.1
2025	8,568	7.6	19.6
2026	8,802	7.9	20.1
2027	9,035	8.1	20.7
2028	9,269	8.3	21.2
2029	9,503	8.5	21.8
2030	9,737	8.7	22.3
2031	9,971	8.9	22.8
2032	10,205	9.1	23.4
2033	10,439	9.3	23.9
2034	10,673	9.5	24.4
2035	10,907	9.7	25.0
2036	11,140	9.9	25.5
2037	11,374	10.2	26.0
2038	11,608	10.4	26.6
2039	11,842	10.6	27.1
2040	12,076	10.8	27.6
2041	12,262	10.9	28.1
2042	12,448	11.1	28.5
2043	12,633	11.3	28.9
2044	12,819	11.4	29.3
2045	13,005	11.6	29.8
2046	13,191	11.8	30.2

APPENDIX C

SUPPORTING INFORMATION FOR CONSERVATION PLAN MEASURES AND PROGRAMS

APPENDIX C-1

RECOMMENDED PLANT LIST OF THE CITY OF FOUNTAIN

RECOMMENDED PLANT LIST OF THE CITY OF FOUNTAIN
(CITY CODE TITLE 17 SECTION 17.14)

TREES

	Suitable as Parking Lot Trees and Street Trees	Suitable Trees for Landscaped Setbacks, Buffers, Internal Landscaping Areas	Suitable Trees under Power Lines
DECIDUOUS – SHADE			
Ash, Green (Fraxinus pennsylvanica lanceolata) (D-R)*	X	X	
Ash, Marshall's (Fraxinus pennsylvanica lanceolata 'marshall')	X	X	
Ash, Mountain (Sorpus aucuparia)	X	X	
Buckeye, Ohio (Aesculus glabra)		X	
Catalpa, Western (Catalpa bignonoides) (D-R)	X	x	
Cottonwood, Robusta (Populus angulata nigra Robusta)		X	
Cottonwood, Diouxland (Populus deltoides 'Siouxland')		X	
Hackberry (Celtis occidentalis) (D-R)	X	X	
Honey locust, Shademaster (Gleditsia triacanthos 'shade master')	X	X	
Honey locust, Skyline (Gleditsia triacanthos 'skylin e') (D-R)	X	X	
Honey locust, Skyline (Gleditsia triacanthos 'sunburst') (D-R)	X	X	
Honey locust, Thronless (Gleditsia triancanthos inermis) (D-R)	X	X	
Horsechestnut (Aesculus hippocastanum)		X	
Linden, American (Tilia americana)			
Linden, Greenspire (Tilia condata 'greenspire')	X	X	
Linden, Redmond (Tilia euchlora 'redmond')	X	X	
Maple, Norway (Acer platanoides)	X	X	
Maple, Norway Colunmaar (Acer platanoides 'columnar e')	X	X	
Maple, Schwedler (Acer platanoides 'schwedler i')	X	X	
Maple, Silver (Acer saccharinum)		X	

- (D-R) indicates that the plant is considered drought-resistant

	Suitable as Parking Lot Trees and Street Trees	Suitable Trees for Landscaped Setbacks, Buffers, Internal Landscaping Areas	Suitable Trees under Power Lines
Maple, Sugar (Acer saccharum)		X	
Oak, Pin (quercust palustris)		X	
Walnut, Black (Juglans nigra) (D-R)		X	
DECIDUOUS – ORNAMENTAL			
Aspen, Quaking (Populus tremuloides)		X	
Ash, Snowy Mountain (Sorbus decora)		x	
Birch, Paper White (Betula papyrifera)		X	
Birch, River (Betula nigra)		X	
Cherry, Canada Red (Prunus virginiana melanocarpa 'shupert')		X	
Crab, Dolgo (Malus 'dolgo')		X	
Crab, Hopa (Malus 'hopa')		X	
Crab, Radiant (Malus 'radiant')		X	
Hawthorne, Washington (Crataegus Crusgalli) (D-R)		X	
Golden Rain Tree (Koelreutaria paniculata) (D-R)		X	
Lilac, Japanese Tree (Syringa amurensis japonica)		X	
Locust, Globe (Robinia pseudoacacia 'umbr aculifera') (D-R)		X	
Maple, Amur (Acer ginnala)		X	X
Maple, Hedge (Acer campestre)		X	X
Maple, Norway, Globe (Acer platanoides globosum)		X	X
Oak, Gambel's (Quercus gambelli) (D-R)		X	
Olive, Russian (Elaeagnus angusbifolia) (D-R)		X	X
Poplar, Lombardy (Poplus nigra italica)		X	
Plum, Newport (Purpleleaf)		X	X

- (D-R) indicates that the plant is considered drought-resistant

	Suitable as Parking Lot Trees and Street Trees	Suitable Trees for Landscaped Setbacks, Buffers, Internal Landscaping Areas	Suitable Trees under Power Lines
(Prunus 'newport') (D-R)			
Shadowblow Serviceberry (Amalanchier canadensis)		X	
Redbud (Cercis canadensis)		X	
EVERGREEN TREES			
Fir, Blasam (Abies balsanea)		X	
Fir, White (Abies concolor)		X	
Fir, Douglas (pseudotsuga taxifolia)		X	
Pine, Austrian (Pinus nigra) (D-R)		X	X
Pine, Pinon (Pinus edulis) (D-R)		X	X
Pine, Ponderosa (Pinus ponderosa) (D-R)		X	
Pine, Scotch (Pinus sylvestris) (D-R)		X	
Spruce, Colorado Blue (Picea pungens glauca)		X	
Spruce, Colorado Green (Picea pungens)		X	
Spruce, Norway (Picea abies)		X	
UPRIGHT EVERGREENS			
Upright Junipers (Juniperus scopulorum—Rocky Mountain Juniper, etc.) (D-R)		X	X
(Juniperus monosperma—One-Seed Juniper) (D-R)		X	X
(Juniperus virginiana—Red Cedar (D-R)		x	X

- (D-R) indicates that the plant is considered drought-resistant

SHRUBS

	Suitable as a Parking Lot Screen	May be Credited Toward Ground Covering of Living Materials
LOW—LESS THAN 4' MATURE HEIGHT		
NOTES: These shrubs should be planted at maximum spacing of 3' for 1-gallon co ntainers and 4' for 5-gallon containers. Shrubs enclosed with parentheses (x) must be combined with other techniques (such as berms) to achieve the required 3' height of t he parking lost screen.		
Barberry, Japanese Green Leaf (Berberis thunbergi)	X	X
Barberry, Japanese Red Leaf (Berberis thunbergi atropurpurea)	X	X
Barberry, Crimson Pygmy (Berberis thunbergi, atropurpurea nana)	(x)	X
Cotoneaster apiculata (Cotoneaster apriculata) (D-R)	(x)	X
Coralberry, Red-Indian Current (Symphoricarpos orbiculatus) (D-R)	X	X
Currant, Alpine (Ribes alpinum)	X	X
Forsythia, Arnold Dwarf (Forsythia "arnold dwarf")	X	X
Honeysuckle, Emerald Mound (Lonicera xylosteum)	X	X
Lilac, Dwarf Korean (Syringa palibiniana)	X	X
Mockorange, Minnesota Snowflake Dwarf (Philadelphus 'minnesota snowflake' nana)	X	X
Potentilla 'Gold Drop' (Potentilla farreri 'gold drop')	(x)	X
Potentilla, Jackmans (Potentilla fruticusa 'jackmani')	X	X
Potentilla, 'Katherine Dykes' (Potentilla katherine dykes)	(x)	X
Rhododendron, P.J.M. (Rhododendron Carolinianum p.j.m.)	X	X
Spirea, Anthony Waterer (Spiraea bumalda "anthony waterer") (D-R)	X	X
Spirea, Froebel (Spiraea bumalda "froebel") (D-R)	X	X
Spirea, Snowmound (Spiraea nipponica "snowmound") (D-R)	(x)	X

- (D-R) indicates that the plant is considered drought-resistant

	Suitable as a Parking Lot Screen	May be Credited Toward Ground Covering of Living Materials
MEDIUM—4' TO 6' MATURE HEIGHT		
NOTE: These shrubs should be planted at a maximum spacing of 4' for 1-gallon containers and 5' for 5-gallon containers.		
Almond, Pink Flowering (Prunus glandulosa sinensis)	X	X
Burning Bush, Compact (Euonymous alatus compacta)	X	X
Cherry, Purple Leaf Sand (Prunus cistena)	X	X
Connoneaster, Spreading (Cotoneaster divaricata) (D-R)	X	X
Cranberry, Compact American (Viburnum trilobum compactum)	X	X
Currant, Yellow Flower-Clove (Ribes odoratum)	X	X
Dogwood, "Isanti" (Cornus stolonifera "isanti")	X	X
Dogwood, Variegated (Cornus elegantissima)	X	X
Honeysuckle, Clavey's Dwa rf (Lonicera claveyi nana)	X	X
Hydrangea, Annabelle (Hydrangea arborescents "a nnabelle"	X	X
Hydrangea, Peegee (Hydrangea paniculata grandiflora)	X	X
Hydrangea, Snowhill (Hydrangea arborescents grandiflora)	X	X
Juniperus, Pfitzer (Juniperus chinensis pfitzeriana) (evergreen-medium spreading) (D-R)	X	X
Juniperus, Pfitzer Compact (Juniperus chinensis kelleyi) (evergreen-medium spreading) (D-R)	X	X
Juniperus, Pfitzer Gold Tip (Juniperus chinensis pfitzeriara aurea) (evergreen-medium spreading) (D-R)	X	X
Lilac, Miss Kim (Syringa velutina "miss kim")	X	X
Maple, Amur Dwarf (Acer ginnala compacta)	X	X
Ninebark, Dwarf (Physocarpus opulifolious nana)	X	X

- (D-R) indicates that the plant is considered drought-resistant

	Suitable as a Parking Lot Screen	May be Credited Toward Ground Covering of Living Materials
Mockorange, Golden (Philadelphus coronarius "au reus")	X	X
Mockorange, Lemoine (Philadelphus lemoine)	X	X
Pine, Mugho (Pinus mughus) (evergreen-mound shape) (D-R)	X	X
Pirvet, Golden (Ligustrum obtusifolium vicaryi)	X	X
Rose, Rugosa (Rosa)	X	X
Snowberry, White (Symphoricarpos alba) (D-R)	X	X
Spirea, Thunberg (Spiraea thunbergi) (D-R)	X	X
Spirea, Vanhoutte, Bridalwreath (Spiraea vanhouttei) (D-R)	X	X
Sumac, Fragrant (Rhus canadensis aromatica)		X
Viburnum, Compact American Cranberry (Viburnum trilotum compacta)	X	X
Weigela, Rosea Pink (Weigela florida)	X	X
Weigela, Vanicek Red (Weigela vaniceki)	X	X
Weigela, Variegated (Weigela florida variegata)	X	X
Yew, Japanese (Taxus cuspidata) (evergreen)	X	X
TALL—OVER 6' MATURE HEIGHT		
NOTE: These shrubs should be planted at a maximum spacing of 5' in 5-gallon co ntainers. These shrubs are usually not available or appropriate to satisfy landscape requirements in 1-gallon containers.		
Buckthorn, Columnar (Rhamnus frangula "columnaris" (D-R)	X	X
Buffaloberry, Silver (Sherherdia, agrentea)	X	X
Cotoneaster, Peking (Cotoneaster acutifolia) (D-R)	X	X
Dogwood, Golden Twigged (Cornus stolonifera flaviramea)	X	X
Dogwood, Pagosa (Cornus alternifolia)		X

- (D-R) indicates that the plant is considered drought-resistant

	Suitable as a Parking Lot Screen	May be Credited Toward Ground Covering of Living Materials
Elder, Golden (Sambucus canadensis "au rea")	X	X
Euonymus, Aldenham (Euonymus europaeus aldenhamensis)	X	X
Euonymus, Winged (Euonymus alatus)	X	X
Falsespirea (Sorbaria sorbifolia)	X	X
Forsythia (Forsythia intermedia)	X	X
Honeysuckle, Tatarian White (Lonicera tatarica alba)	X	X
Honeysuckle, Zabels (Lonicera korolkowi "zabeli") (D-R)	X	X
Lilac, Common Purple (Syringa vulgaris purpurea) (D-R)	X	X
Lilac, French Hybrids (Syringa vulgaris cultivars)	X	X
Maple, Rocky Mountain (Acer glabrum)	X	X
Mockorange, "Minnesota Snowflake" (Philadelphus minnesota snowflake)	X	X
Mockorange, Virginalis (Philadelphus virginal)	X	X
Ninebark, Goldleaf (Physocarpus opulifolius "au reus"	X	X
Oak, Gambel (Quercus 'Gambeli')	X	X
Peashrub, Siberian (Caragana arborescents) (D-R)	X	X
Smoketree, Red Leaf (Cotinus aericanus)	X	X
Sumac, Cutleaf Staghorn (Rhus typhina "laciniata")		X
Sumac, Smooth (Rhus glabra)		X
Tamarisk, Summer Glow (Tamarix pentandra "rubra") (D-R)	X	X
Viburnum, American Cranberry (Viburnum trilobum)	X	X
Virurnum, Snowball (Viburnum, opulus sterilis)	X	X
Viburnum, Lantana (Viburnum lantana)	X	X

- (D-R) indicates that the plant is considered drought-resistant

GROUND COVERS

	Maximum Spacing to Allow Credit toward Ground Coverings of Living Materials
Creeping and Spreading Junipers (Juniperus horizontalis – Andorra, Bar Harbor, Wilton, Chinensis) (Juniperus sabina – Broadmoor, tamariscifolia "Tammy") (D-R)	3' spacing for 1-gallon cont ainers, 4' spacing for 5-gallon containers.
Hall's Japanese Hone ysuckle (Lonicera japonica "Hall")	18" spacing for 2¼" flattype containers, 3' spacing for 1-gallon cont ainers, 4' spacing for 5-gallon containers.
Hancock Coralberry (Symphoricarpus orbiculatus)	"
Hancock Coralberry (Symphoricarpus orbiculatus)	"
Ivy, Ground (Nepata hederacea)	"
Matrimony, Vine (Lycium halminifolium (D-R)	"
Shrubby Cinquefoil (Potentilla fruticosa) (D-R)	"
Snow-in-Summer (Cerastium Tomentosum)	"
Ajuga, Bugle (Ajuga genevensis)	"
Creeping Hollygrape (D-R) (Mahonia repens)	"
Kinnikinnick (Arctostaphylos uva-ursi) (D-R)	"
Lily of the Valley (Convallaria majalis)	"
Maiden Pink (Dianthus deltoides)	"
Moss Pink (Creeping phlox)	"
Periwinkle, Myrtle (Vina minor)	"
Rock Cotoneaster (Cotoneaster horizontalis) (D-R)	"
Silver Mound, Wormwood (Artemesia) (D-R)	"
Stonecrops Goldmoss, Dragonblood (Sedum Spp.) (D-R)	"
Wintercreeper (Euonymus fortunei vars.)	"

- (D-R) indicates that the plant is considered drought-resistant

TURF GRASSES

IRRIGATED AREAS (Requires approximately 1" of water per week during growing season)	
Kentucky bluegrasses (Poapratensis) (Common, Blend, Merian, Windsor, Adelphi, Baron)	
LIMITED—IRRIGATION AREAS (Requires 2"-3" of additional water per growing season)	
Smooth Brome (Bromus Inermis) Western Wheatgrass (Agropyron Smithii) Tall Fescue (Festuca arundinacea) Alkali Grass (Pucinella distans)	
NON-IRRIGATED AREAS (Depends entirely on natural precipitation)	
Crested Wheatgrass (Agropyron Cristatum) Buffalograss (Buchloe dactyloides) Blue Gramma (Bouteloua gracilis)	

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- (D-R) indicates that the plant is considered drought-resistant

APPENDIX C-2

CITY OF FOUNTAIN XERISCAPE PROJECTS

City of Fountain

Xeriscape Projects

2008

XERISCAPE

City of Fountain
Pure Community

APPENDIX C-3

CURRENT WATER RATES AND TAP FEES

2009 WATER TAP FEES & WATER RATES

The City of Fountain charges a one-time water tap fee to all contractors/builders, property owners or annexed entities (residential or commercial) wanting to tap into the City's water infrastructure system. This tap fee charge is based on the size of the meter to be used. Most residential users have a ¾" meter, which is considered the standard size. The chart listed below reflects the current water tap fee rates based on the size of meter installation:

TAP SIZE (Inches)	**2009 TAP FEES** (Infrastructure + Water Acquisition = **Total Tap Fee**)
¾"	$10,824 + 6,500 = **$17,324**
1"	$19,279 + $11,577 = **$30,856**
1 ¼"	$30,110 + $18,081 = **$48,191**
1 ½"	$42,530 + $25,539 = **$68,070**
2"	$47,433 + $28,483 = **$75,916**
2 ½"	$75,274 + $45,201 = **$120,475**
3"	$110,819 + $66,545 = **$177,364**
4"	$193,740 + $116,341 = **$310,081**
Each Unit Multifamily	$6,173 + $3,640 = **$9,813**

The City of Fountain's water rates are broken down into blocks based on the size of the tap at each building's location and based on the amount of water being used (in gallons), which is reflected below in each block section. The principle of usage is based on the more water used after the initial 3,000 gallons, is charged at a higher price for total water usage. This method or principle is based on the tier factor as a means of water conservation; residents who use less water receive a lower price on the gallons used below 3,000 per month. The higher the use of water, the higher the cost for water used.

2009 WATER RATES - ¾" TAP
Block 1 Minimum Charge (3,000 gallons)
$24.64
Block 2 (3,001 - 6,000 gallons)
$3.26 per 1,000 gallons
Block 3 (6,001 - 10,000 gallons)
$3.89 per 1,000 gallons
Block 4 (10,001 - 15,000 gallons)
$4.29 per 1,000 gallons
Block 5 (15,001 – 21,000 gallons)
$4.87 per 1,000 gallons
Block 6 (over 21,000 gallons)
$5.36 per 1,000 gallons

Greater than ¾" Tap Water Rate Block Volume Definitions (gallons):

TAP SIZE	FIRST BLOCK	SECOND BLOCK	THIRD BLOCK	FOURTH BLOCK	FIFTH BLOCK	SIXTH BLOCK
1"	Up to 6,000	6,001 - 12,000	12,001 - 20,000	20,001 - 30,000	30,001 – 42,000	Over 42,000
1 ¼"	Up to 8,000	8,001 - 16,000	16,001 - 26,667	26,668 - 40,000	40,001- 56,000	Over 56,000
1 ½"	Up to 13,500	13,501 - 27,000	27,001 - 45,000	45,001 - 67,500	67,501 – 94,500	Over 94,500
2"	Up to 24,000	24,001 - 48,000	48,001 - 80,000	80,001 - 120,000	120,001 – 168,000	Over 168,000
2 ½"	Up to 36,000	36,001 - 72,000	72,001 - 120,000	120,001 - 180,000	180,001 – 252,000	Over 252,000
3"	Up to 52,500	52,501 - 105,000	105,001 - 175,000	175,001 - 262,500	262,501 – 367,500	Over 367,500
4"	Up to 90,000	90,001 - 180,000	180,001 - 300,000	300,001 - 450,000	450,001 – 630,000	Over 630,000
6"	For a 6” water tap, the water rates are to be established by contract between the user and the City.					
8"	For an 8” water tap, the water rates are to be established by contract between the user and the City.					

Greater than ¾" Tap Minimum Monthly Charges:

TAP SIZE	GALLONS INCLUDED	2009 MINIMUM MONTHLY CHARGE
1"	6,000	$49.28
1 ¼"	8,000	$75.34
1 ½"	13,500	$109.87
2"	24,000	$197.76
2 ½"	36,000	$295.07
3"	52,500	$433.19
4"	90,000	$739.25

Greater than ¾” Tap Minimum Monthly Charges:

2009 WATER RATES				
Block 2	**Block 3**	**Block 4**	**Block 5**	**Block 6**
$3.78	$4.51	$4.97	$5.67	$6.24

APPENDIX C-4

CITY OF FOUNTAIN
WATER CODE

Chapter 13.04

WATER CODE

Effective 02-01-08
Sections:

V. CONTROL AND PROTECTION OF WATER SYSTEM

Chapter 13.04

WATER CODE

13.04.010 Definitions. Unless the context specifically indicates otherwise, the following terms, as used in this chapter, shall be defined as follows:

A. "Distribution Main" means that portion of the water supply system, which transmits and distributes water of the City from treatment or storage facilities to users, excluding service lines.

B. "Water Department" means the City department, which is responsible for the operation and maintenance of the water supply system.

C. "Superintendent of Water Department" means the manager of the water department or his designated representative.

D. "Transmission Line" means that portion of the water supply system, which transports untreated water to water treatment facilities.

E. "User" means any person that uses, takes water from or is connected to the water supply system of the City.

F. "Utility Director" means the supervisor of the Water, Electric and Utilities Customer Service Departments. The managers of such departments report to the Utility Director.

G. "Water Supply System" or "Water System" means:

1. Any and all rights, property and obligations of the City concerning water and water supply facilities;

2. Any and all devices, facilities, structures, equipment or works owned or used by the City for the purpose of the collection, storage, transmission, treatment, regulation or distribution of potable water, including distribution mains, pumping facilities, metering facilities, pressure regulation facilities and their appurtenances and excluding service lines;

3. Any and all standby or contingency equipment, facilities or material which may be necessary to provide reliable water service;

4. Any and all devices, facilities, structures, equipment or works owned or used by the City for the purpose of the transmission, storage, treatment, or distribution of water, including water treatment plants, pumping facilities, reservoirs, transmission lines and their appurtenances;

5. Any and all land or sites owned or used by the City for the purpose of providing water to users including streams or other waters which contribute to the water supply of the City and any area in or along such waters or within five (5) miles upgrade of any point from which water is taken by the City and any and all watershed areas;[1] and

6. Any and all extensions, improvements, additions, alterations or remodeling thereof. (Ord. 1138 §1, 2001)

13.04.020 Responsibility of Water Department. The Water Department shall be responsible for the water supply system serving the City and such other areas authorized by the City Council. (Ord. 1138 §1, 2001)

13.04.030 Responsibility of Superintendent. The Superintendent of the Water Department shall be responsible for the management of the water system of the City and all of the property appertaining thereto. He shall see that such system and such property are kept in good working order and repair. He shall insure proper compliance with all local, state and federal regulations for the collection, transmission, treatment and distribution of water and shall perform all other duties in connection with such system as may be required of him. (Ord. 1138 §1, 2001)

13.04.031 City of Fountain Public Utility Design and Construction Specifications for a Water Distribution System. There is hereby adopted by reference the 2007 edition of the City of Fountain Public Utility Design and construction specifications for a Water Distribution System. (Ord. 1383 §2, 2007)

13.04.040 Adoption of Rules and Regulations.

A. Upon recommendation of the Utility Director, the City Manager shall adopt rules and regulations for the administration of the Water Department. Said rules and regulations shall pertain to, but shall not be limited to, standards and requirements for the installation, construction, maintenance, repair or replacement of property appertaining to the water system, standards and requirements for providing water service to the public and standards and requirements for insuring the potable and palatable quality of water. In establishing such rules and regulations, the Utility Director shall seek to provide for the safe and efficient operation of the water supply system, for a water supply sufficient to satisfy the public needs, and for water quality, by protecting the water supply and the public from polluting or unsanitary substances and conditions.

B. Such rules and regulations shall be approved by the City Council and upon adoption and approval shall be filed with the City Clerk. Such rules and regulations may be

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[1] For the jurisdiction of the City in regard to its water system, see section 31-15-707(1)(b), C.R.S.

inspected by any person at any time during regular business hours and copies thereof may be purchased by any person upon payment of the cost of reproduction.

C. It shall be unlawful for any person to violate the rules and regulations officially issued by the Utility Director, approved by the City Council and filed with the City Clerk. A separate and distinct offense shall be deemed to have been committed for each day on which violation shall occur or continue. (Ord. 1138 §1, 2001)

13.04.050 Application for Water Service. Any person desiring to connect a service line to the water supply system of the City shall make application to the City Clerk. The application to the City shall be supplemented by any plans, specifications or other information deemed necessary by the Superintendent of the Water Department to determine compliance with all ordinances, regulations or rules concerning the water system. The application shall comply with all ordinances, regulations or rules concerning the water system of the City. Upon approval by the Superintendent of such application, all applicable fees and charges shall be paid to the City Clerk. (Ord. 1138 §1, 2001)

13.04.060 Water Service Outside City. It is the policy of the City of Fountain not to furnish water to users outside the corporate limits of the City; however, there are situations where the City Council in its sole discretion may justify exceptions to that policy. The City expressly reserves the right, as may be limited by state or federal law, to impose such conditions as it may see fit relative to the furnishing of such service and to refuse such service in its discretion. All provisions of this chapter apply to those areas outside the corporate limits of the City, except those areas covered by a contract which expressly establishes other rules for the area served under the contract. (Ord. 1138 §1, 2001)

13.04.070 Water Service by Special Contract. The City may provide by contract augmentation water, non potable ground water and allow for the use of and connection to the water supply system of the City by governmental institutions, organized water districts, municipal corporations or other similar users. Such contracts shall expressly provide for compliance by such users with ordinances, regulations and rules of the City concerning the water supply system. Such contracts shall be further subject to such other terms and conditions as the City Council sees fit to impose. Such contracts and the terms, conditions and/or renewals thereof, existing on the effective date of this chapter shall remain in full force and effect. (Ord. 1138 §1, 2001)

13.04.080 Rights of the City.

A. This chapter shall not be construed to create any rights or cause of action in any person or land, whether or not the same is eligible for annexation, to demand or receive water or any other municipal service. The City has never previously and does not now assert exclusive control over the right to serve areas outside the corporate limits of the City with water service or other municipal services. Areas and activities outside the corporate limits of the City are free to obtain water and other services from any other sources.

B. The right of the City Council to restrict and regulate the use of City water within or outside the City limits shall not be abridged by anything contained in this chapter. The City Council hereby declares the policy of the City to be that water belonging to the City is in no way allocated to a particular parcel of land until such land is developed and water applied to actual use upon such land. Nothing in this chapter shall be construed to confer upon undeveloped land within the City limits, as such City limits exist at the time of adoption of this chapter or as such City limits may be hereinafter altered by annexation or disconnection, any right to the preservation of existing water rights or quantities of water for the sole and exclusive use of such land. (Ord. 1138 §1, 2001)

II. CONNECTION AND INSTALLATION OF SYSTEM

13.04.090 Connection Required. The owner of any house or other building occupied for business or residential purposes, situated within the City and abutting any street, alley or right-of-way in which there is now located or may be in the future be located a water distribution main of the City, is hereby required at such owner's expense to connect such building by means of a service line directly with the distribution main in accordance with the provisions of this chapter. The point or points at which connection is made to the distribution main shall be determined by the Superintendent. (Ord. 1138 §1, 2001)

13.04.100 Connection Requirements - Exception.

A. Connection to the water supply system of the City shall not be required for any property which is served by an existing well or other water supply system, which system is approved by the El Paso County Health Department and which system serves said property in substantially the same manner as it would be served by the water supply system of the City.

B. This section shall apply solely to property served by an existing well or other water supply system prior to connection to the water supply system of the City, and shall not be construed to permit any person already connected to the water supply system of the City, whose property may subsequently be served by a well or other water supply system, to disconnect from the water supply system of the City. (Ord. 1138 §1, 2001)

13.04.110 Connection Required - Violation. It shall be unlawful for any person who owns any house or other building occupied for business or residential purposes situated within the City to fail to connect such house or building to a water supply system in accordance with the requirements of this chapter. (Ord. 1138 §1, 2001)

13.04.120 Connection - Permits. No connection to the water supply system of the City shall be made without first obtaining a tap permit therefor issued by the City Clerk. (Ord. 1138 §1, 2001)

13.04.130 Unauthorized Connections Prohibited. It shall be unlawful for any unauthorized person to uncover, make any connection with or opening into, use, alter or disturb any distribution main or appurtenance thereof without first obtaining a permit from the City

Clerk. Any such connection shall be made in compliance with the provisions of this chapter. (Ord. 1138 §1, 2001)

13.04.140 Connection to System - Exclusion of Liability. The City shall not be subjected to any liability for any deficiency in the installation, which is not discovered by inspection, nor shall the owner of the premises be absolved from liability for such deficiency and any resulting damage or from responsibility to correct such deficiency. (Ord. 1138 §1, 2001)

13.04.150 Installation - Excavations For. All excavations for water service installation or repair shall be performed in accordance with the Fountain Municipal Code and the rules and regulations of the Water Department as applicable. Such excavations shall meet all applicable safety standards, including any requirements as to barricades and lights. Streets, sidewalks, parkways and other public property disturbed in the course of work shall be restored in a manner satisfactory to the Department of Public Works of the City. (Ord. 1138 §1, 2001)

13.04.160 Service Line - Separate for Each Building - Exceptions.

A. A separate and independent service line shall be provided for every building.

B. Where one building stands at the rear of another on an interior lot which cannot be subdivided, and where no service line is available nor can be constructed to the rear building through an adjoining alley, court, yard or driveway, the service line of the front building may be extended to the rear building and the whole considered as one water service.

C. Multi-family or commercial or industrial complexes having more than one building on a single platted lot owned by one person may have the individual buildings connected to a single common service line, unless and until such lot is resubdivided or the buildings otherwise become separately owned in which case independent connections shall be made.

D. The City does not assume any obligation or acquire any liability for damage to the connecting property or any portion thereof caused by or resulting from any such connection to the water supply system as aforementioned. (Ord. 1138 §1, 2001)

13.04.170 Service Line - Conformance to Rules and Regulations. The size, slope, alignment and materials of construction of a service line, and the methods to be used in excavating, placing of the pipe, jointing, testing, backfilling and inspection of a trench shall all conform to the requirements of the Building and Plumbing Codes and other applicable rules and regulations of the City. Additionally, all existing and new service lines shall conform to the requirements of the water service quality control regulations. (Ord. 1138 §1, 2001)

13.04.180 Service Lines - Standards For.

A. All service lines for connection to the water supply system of the City shall be installed in accordance with the provisions of this Chapter and of the Public Works Design and Construction Specifications.

B. All service lines shall be laid at such depth that the top of any such line throughout its length is not less than five (5) feet or more than six (6) feet below the finished surface of the ground.

C. All service lines shall be connected to a curbstop so that water may be shut off from the service line at any time. Such curb stop shall be level with the adjacent ground surface and shall be protected by an adjustable iron box or cylinder not less than five (5) feet in length. Curb stop boxes shall not be located in concrete areas, driveways, sidewalks, curb or gutter.

D. A water pressure regulator shall be installed in each service line connected to a distribution main owned by the City. (Ord. 1138 §1, 2001)

13.04.190 Responsibility for Maintenance of Service Line. The owner shall keep the service line and all pipes and fixtures on his premises in good repair so as to prevent waste of water. The owner must secure all required permits for construction purposes and shall be responsible for restoring the public right-of-way and the street to acceptable City standards. Where more than one premises are connected to a single service line, the owners of the respective premises shall be jointly and severally responsible for maintenance and repair of the service line.

A. The property owner shall be responsible for the repair and maintenance of the water service line from the curb stop to the premises. In case of an emergency, the water department may repair this portion of the service line for which the owner is responsible and bill the owner for such costs of repair.

B. The Water Department shall be responsible for the maintenance and repair of the water service line from the distribution main to the curb stop. Repair and maintenance of this portion of the service line shall be performed by the Water Department at no cost to the property owner.

C. The property owner shall be responsible for the repair and maintenance of the water service line from the property line to the house or other building.

D. Leaks occurring on water service line between the curb stop and the house or building shall be repaired as necessary to include backfilling restoration of property at the property owner's expense. However, the Water Department will, if requested to do so, shut off the water service line at the curb stop. To preclude unnecessary waste of water, if repairs are not initiated within a reasonable period of time, the Water Department may, in its discretion, shut off the water service until repairs have been effected.

E. The property owner shall be responsible for all damages that may occur to other

property, real or personal, including property of the Water Department, that were a result of a failure to repair and maintain the water service, including, but not limited to, leaks occurring on a water service line, bursting or other failure of the water line.

F. When a doubt exists concerning the responsibility for repairing a leak, the Water Department will determine the origin of the leak, and the responsibility for repair. This will be done by turning off the service at the curb stop. When this action causes the leak to stop flowing, the homeowner or property owner will be responsible for repair. When the leak continues to flow after turn off, the Water Department assumes responsibility and will effect repair at no expense to the homeowner/property owner. (Ord. 1138 §1, 2001)

13.04.200 Mains and Lines - Manner of Extension. Distribution mains to supply and distribute water to and throughout areas or additions shall be extended by the owner or developer of premises to be served by such lines from the existing distribution main to the point or points of the property line of such premises farthest from the existing distribution main. Such extension requirement may be waived by the Superintendent in the event that he determines that extension to the farthest point from the existing distribution main is not necessary for the efficient expansion of the water supply system. In any event, distribution mains shall be extended by the owner or developer of premises to be served by such mains to a point which permits the shortest possible service line between the distribution main and the property line of the premises served thereby. Thereafter, said distribution mains shall be extended to adjoining premises in compliance with the public works designs and construction specifications for water main installations. Extensions shall not be made for remote or isolated service unless the applicant requesting such service shall provide for the cost of such extension to the point of service and such extension is approved by the Superintendent. (Ord. 1138 §1, 2001)

13.04.210 Mains and Lines - Compliance with Subdivision Regulations. No water distribution main or service line shall be laid or placed in any proposed addition to or subdivision within the City until said addition or subdivision is platted and approved in accordance with the City's subdivision ordinance. (Ord. 1138 §1, 2001)

13.04.220 Existing Lines - Conditions for Use. Existing service lines and/or distribution mains may be used in connection with new buildings only when they are found by the Superintendent to meet all requirements of this Chapter. (Ord. 1138 §1, 2001)

13.04.230 Construction - Requirements for Commencement and Completion. Construction of any building or facility to be served by a connection with the water supply system of the City shall be commenced within one hundred twenty (120) days from the date of approval or payment of the charges set out in this chapter and such construction shall be pursued to completion without suspension or abandonment, as provided in the City's Building Code. Failure to comply with the above requirements shall result in cancellation of the connection permit and the return of the connection charge less expenses incurred by the division to determine such noncompliance. (Ord. 1138 §1, 2001)

13.04.231 City of Fountain Public Utility Design and Construction Specifications for a Water Distribution System. There is hereby adopted by reference the 2007 edition of the City of Fountain Public Utility Design and construction Specifications for a Water Distribution System. (Ord. 1383 §2, 2007)

13.04.240 Disconnection.

A. For the purposes of this section, "customer" shall mean the person designated on the Customer Service Department's records as the person responsible for payment of charges incurred for the use at his premises of the water supply system of the City.

B. The Water Department shall disconnect the service line of premises from the distribution main of the City upon request of the customer. Such disconnection shall be accomplished in a manner that ensures against leakage of water.

C. In the event that the premises of a customer are disconnected from the water supply system of the City, such customer shall be responsible for all costs of such disconnection. In no event shall taps serving the premises of any customer be transferred to another premises.

D. In the event that a customer desires to install a new service line for premises for which an existing service line is available, the new service line shall not be connected until the existing service line is disconnected from the distribution main.

E. 1. In the event that a previously used service line is not used for a continuous period of one (1) year or more, the Water Department may, at the customer's expense, shut off such service line at the corporation stopcock provided; however, the shut off may be delayed if the customer states in writing that the service line will be in regular use within a specific time agreed to pay the cost of such shut off within thirty (30) days after billing, then in addition to any other remedies that may be available to the department, such cost may be assessed against the property formerly served in the same manner as other water charges may be assessed against the property.

2. In the event that a previously used service line is not used for a continuous period of five (5) years or more, such service line shall be deemed to be abandoned, unless a letter of agreement is entered into between the customer and the Water Department. When a service line is deemed to be abandoned, there shall be no further obligation on the Water Department to provide water to that service line. The obligation to serve shall not again arise except upon reapplication in accordance with all ordinances then applicable and the payment of all fees due at the time of the reapplication. (Ord. 1138 §1, 2001)

III. COSTS AND CHARGES

13.04.250 Water Facilities - Cost.

A. A property owner or developer shall be responsible for the cost and construction

of all water distribution mains, and the appurtenances thereto, including any required fire hydrants necessary to serve the property or development upon approval by the City of the plans and specifications of such facilities and appurtenances. The City shall inspect and approve the actual construction prior to connection of such facilities.

B. When an owner or developer finds it necessary to construct water supply and distribution facilities through or adjacent to unserved or undeveloped lands, such owner or developer shall pay the entire cost of such facilities. However, the City shall agree in writing with such owner or developer to assist in the collection of a prorata share of the actual cost of such facilities from the owner of such unserved or undeveloped lands at the time of connection to the facilities and refund such cost to the owner or developer.

C. 1. An owner or developer, who is a party to a recovery agreement with the City, shall provide a complete detailed summary of all construction costs to the City Engineer within ninety (90) days after completion of construction. Failure to provide such construction cost information shall relieve the City of responsibility to assist in the collection of a prorata share from subsequent connectors; provided, nothing contained herein shall relieve a subsequent connector from the obligation to pay a reasonable cost of construction, such reasonable cost to be determined by the City Engineer on the basis of the best information available to him at the time.

2. The owner or developer and the Superintendent of the Water Department shall jointly determine the service area of the facilities constructed by the owner or developer and shall jointly determine a recovery charge, which normally shall be on per-front-foot basis. In the event that the owner or developer and the Superintendent of the Water Department shall fail to agree, the determinations of the Superintendent of the Water Department shall be subject to review by the City Manager, whose decision shall be appealable to City Council.

3. The owner or developer's right to reimbursement under the provisions of the recovery agreement shall not exceed the actual construction costs for a period of twenty (20) years from execution of the agreement unless the City Council shall approve a contract period exceeding twenty (20) years.

D. A property owner or developer may be required to construct a distribution main larger than that required for his needs for the service of lands beyond the property or development. The construction costs due to oversizing of a distribution main shall be subject to the same cost recovery provisions as provided in this section. (Ord. 1138 §1, 2001)

13.04.260 Installation Cost. All costs and expenses incidental to the installation and connect of a service line from the distribution main to the premises shall be borne by the owner of such premises. The owner shall indemnify the City for any loss or damage to the City that may directly or indirectly be occasioned by installation of such service line. (Ord. 1138 §1, 2001)

13.04.270 Connection Charge.

A. In each lot, area, territory, subdivision or addition, inside or outside the corporate limits of the City, for which a request for water service connection or addition to the water supply system of the City shall be made, there is and shall be a connection charge for each service line. The connection charge is based upon the total cost associated with providing water service to new customers of the City.

B. If the area to be served is subject to an outstanding recovery agreement; a recovery agreement charge shall also be included in the connection charge.

C. The connection charge shall be payable in full in cash prior to the issuance of a tapping permit. Application for a tapping permit shall be made to the City Clerk. A tapping permit shall only be issued for a specific lot or parcel.

D. Requests for a refund of the connection charge under this section shall be made in writing to the City Clerk within on year of payment thereof.

13.04.270 Connection Charges

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"E. Each new or expanded connection to the water system of the City of Fountain of premises located wholly within the corporate limits of the City of Fountain shall pay a connection fee as hereinafter set forth which includes a water acquisition fee and a tap fee in the amounts hereinafter set forth:

Tap Size	Tap Fee	Water Acquisition Fee	Connection Fee
3/4"	$10,824	$6,500	$17,324
1"	$19,279	$11,577	$30,856
1 1/4"	$30,110	$18,081	$48,191
1 ½"	$42,530	$25,539	$68,070
2"	$47,433	$28,483	$75,916
2 ½"	$75,274	$45,201	$120,475
3"	$110,819	$66,545	$177,364
4"	$193,740	$116,341	$310,081

6" For a 6 inch tap, the water tap fee and the water acquisition fee are to be established by contract between the user and the City.

8" For an 8 inch tap, the water tap fee and the water acquisition fee are to be established by contract between the user and the City.

Each unit multifamily	$6,173	$3,640	$9,813

(Ord. 1403, §3, 2008) (Ord. 1443, §3, 2008)

F. Water acquisition fees and tap fees to be paid by customers whose premises are located in whole or in part outside the corporate limits of the City of Fountain shall pay twice the amount for such fees as would be imposed by subsection E above if the premises were located wholly within the corporate limits of the City of Fountain."
(Ord. 1357, §3, 2006)

G. These connection charges shall apply to any connection that occurs on or after June 15, 2001. However, any residential structure that met the following criteria before June 15, 2001 and connects to the City of Fountain water system on or before June 15, 2006 shall pay the charges that were in effect immediately prior to June 15, 2001;

1. Was in the City of Fountain City limits

2. Had received a certificate of occupancy and was occupied;

3. Was located more than five hundred (500) feet from any public water distribution main. Public Water Distribution Main includes any Distribution Main including but not limited to that which may be owned by the City of Fountain; and

4. Is only served by well water. (Ord. 1138 §1, 2001)

H. These connection charges may be reduced or waived by the City Council upon a determination by the City Council that the reduction or waiver of such connection charges provides an economic benefit to the City or to the consumers of water service provided by the City and such waiver or reduction serves a public purpose. The City Council shall be the sole judge concerning whether the waiver or reduction of a connection charge constitutes an economic benefit to the City or to the consumers of water service and serves a public purpose. (Ord. 1233 §1, 2004)

13.04.280 Recovery Agreement Charge. A recovery agreement charge may be assessed for each connection to or use of a distribution main or other facility which is the subject of a recovery agreement between the City and the person responsible for the construction of said main or facility. Consistent with such agreement, such charge shall be in an amount, which represents a prorata share of the cost of construction of the main, or facility and shall be collected prior to issuance of a building permit. (Ord. 1138 §1, 2001)

13.04.290 Charge - Credit For.

A. In the event that a property owner or developer, with the approval of the Superintendent, connects a new building or structure to a previously existing service line, without changing the size of such service line, such owner or developer shall not be required to pay a water development charge.

B. In the event that an owner or developer replaces an existing service line with a larger service line, such owner or developer shall pay a water connection fee in an amount

representing the difference between the amount assessed on the basis of the existing tap and the amount assessed on the basis of the larger tap. Such owner or developer shall not pay a recovery agreement charge.

C. In the event that an owner or developer replaces an existing service line with a smaller service line, such owner or developer shall not be entitled to a refund of the permit charge or the water development charge. (Ord. 1138 §1, 2001)

13.04.300 Building Permit Approval. The City Clerk or other proper City official shall refuse to approve the issuance of any building permit until and unless all water connection charges, recovery agreement charges and other applicable water service fees have been paid. (Ord. 1138 §1, 2001)

13.04.310 Water Service Application and Fee.

A. In addition to any applicable tapping permit requirements, an application for water service shall be made in writing to the customer service department and shall contain an agreement by the applicant to abide by and accept all of the provisions of this Chapter as conditions governing the use of City water by the applicant.

B. A fee shall be paid for the initial connection and for each subsequent reconnection of service on weekdays (excluding City-recognized holidays) between the hours of 8:00 a.m. and 4:00 p.m. If said connection or reconnection is made after hours (weekends between 8:00 a.m. and 4:00 p.m., City-recognized holidays or on weekends) at the customer's request, the City will charge the customer an after hours connection or reconnection fee.

C. If said payment is made by a check, which is subsequently returned by the bank dishonored, the City will charge the customer a dishonored check-processing fee.

D. The service charges contemplated herein shall be set forth by separate Ordinance as approved by City Council. These charges are to offset the City's costs for such service work and transactions and are in addition to all other customer charges for utility service and for customer deposits. (Ord. 1138 §1, 2001)

13.04.320 Water Service Deposit. Unless otherwise provided in this section, the General Deposit Provisions in Section 13.16.180 apply to deposits made under this section. A deposit of fifty dollars ($50) shall be made with each application for residential water service inside of the City limits to insure payment of all water bills. A deposit on one hundred dollars ($100) shall be made with each application for residential water service outside of the City limits to insure payment of all water bills. A deposit equal to the estimated bills for a period of ninety (90) days or one hundred dollars ($100), whichever is greater, shall be required for all non-residential users. Deposits for water service which are refunded to the customer or applied to the customer's account shall be without interest. (Ord. 1242 §2, 2004)

13.04.322 Unclaimed Utility Water Service Deposit. Unless otherwise provided in this section, the Unclaimed Utility Deposit Provisions in section 13.16.182 of this Code apply to all deposits made pursuant to section 13.04.320 of this Code. (Ord. 1299 §2, 2005)

13.04.330 Water Meters - Reading - Billing. The customer service department shall read or cause to be read every water meter utilized for City water service in order that bills may be sent to the consumer on a monthly basis. Whenever the customer service department is unable to read the customer's meter, the City may estimate the monthly bill based upon the best available information. The bill or charge for said water shall become delinquent ten (10) days after the mailing of such notice to the customer. Failure to send the monthly bill to the consumer shall not absolve the consumer of any liability from said water bill. (Ord. 1138 §1, 2001)

13.04.340 Water Meters - Testing - Fee. Any City water meter may be taken out and tested upon complaint of the consumer, upon payment of a fee of twenty-five dollars ($25). If the meter is tested and not found to be within three (3) percent or less of being accurate, then the meter shall be repaired or replaced and the twenty-five dollar ($25) fee shall be returned to the consumer. (Ord. 1138 §1, 2001)

13.04.350 Meters Required. Except as otherwise provided by contract, a water meter shall be installed at the premises of each user of water services of the City. Such meter shall be capable of measuring the consumption of water at such premises, which measurement shall be recorded at periodic intervals as necessary for the purpose of determining the amount of applicable user charges. One or more meters shall be installed at each of such premises for each user charge rate at which such user receives such service at such premises. (Ord. 1138 §1, 2001)

13.04.360 Remote Readers. Where a remote reader exists at the premises of a user of water services of the City and a discrepancy exists between the reading on such remote reader and the reading on the inside meter at such premises, the reading on the inside meter shall prevail for the purposes of determining the amount of applicable user charges. (Ord. 1138 §1, 2001)

13.04.370 Meters - Installation and Maintenance. Water meters for three-quarter (3/4) inch and one (1) inch lines shall be furnished and installed by the Water Department at the expense of the City, and the City shall retain ownership of such meters. All other sizes of water meters shall be provided and installed by the user at this expense and shall become the property of the City. The Water Department shall perform all necessary maintenance and/or repair of meters including replacement of meters; provided, however that the property owner shall be responsible for protecting the meter against damage. (Ord. 1138 §1, 2001)

13.04.380 Metering Facilities - Installation and Location.

A. The owner or developer of premises served or to be served by the water supply system of the City shall provide and install sufficient and proper meter loops and other necessary facilities for the installation of a water meter. Such a facility shall be provided and installed at

the expense of such owner or developer in accordance with all applicable ordinances of the City and the public works design and construction specifications. No meter shall be installed until such facilities have been inspected and approved by the Water Department.

B. The location of meter installation facilities and other metering equipment upon the premises shall be designated by the Water Department. Such location shall provide for adequate clearance to insure that the meter and appurtenant facilities and equipment are readily accessible for the purpose of reading, testing, maintaining and repairing the meter and shall be in conformity with the public works design and construction specifications. The location of the meter and appurtenant facilities shall be such as to prevent obstruction of or interference with traffic, streets, driveways, sidewalks, hallways or other passageways, or the opening or closing of doors or windows and to provide for protection from hazard. (Ord. 1138 §1, 2001)

13.04.390 Monthly Water Service Charges for Inside and Outside Corporate Limits.

"A. Each user or consumer of water shall pay a minimum monthly water service charge based on the rate schedule (see Charts 13.04.390-2 and 13.04.390-3) for water supplied by the City to premises located within the corporate limits of the City of Fountain as provided in the following tables:

Chart 13.04.390-2 **Water Rates (3/4" Tap)**

Block	Gallons per Month	Rate
1	up to 3,000	$24.64
2	3,001 - 6,000	$3.26 per 1,000 gallons
3	6,001 -10,000	$3.89 per 1,000 gallons
4	10,001 - 15,000	$4.29 per 1,000 gallons
5	15,001 – 21,000	$4.87 per 1,000 gallons
6	over 21,000 gallons	$5.36 per 1,000 gallons

Chart 13.04.390-3 **Water Rates (Greater than 3/4" Tap)**

Tap size	Block	Gallons per Month	Rate
1"	1	up to 6,000	$49.28
	2	6,001 - 12,000	$3.78 per 1,000 gallons
	3	12,001 - 20,000	$4.51 per 1,000 gallons
	4	20,001 - 30,000	$4.97 per 1,000 gallons
	5	30,001 – 42,000	$5.67 per 1,000 gallons
	6	over 42,000 gallons	$6.24 per 1,000 gallons
1 1/4"	Block	Gallons per Month	Rate
	1	up to 8,000	$75.34
	2	8,001 - 16,000	$3.78 per 1,000 gallons

	3	16,001 - 26,667	$4.51 per 1,000 gallons
	4	26,668 - 40,000	$4.97 per 1,000 gallons
	5	40,001 – 56,000	$5.67 per 1,000 gallons
	6	over 56,000 gallons	$6.24 per 1,000 gallons

1 1/2"	Block	Gallons per Month	Rate
	1	up to 13,500	$109.87
	2	13,501 - 27,000	$3.78 per 1,000 gallons
	3	27,001 - 45,000	$4.51 per 1,000 gallons
	4	45,001 - 67,500	$4.97 per 1,000 gallons
	5	67,501 – 94,500	$5.67 per 1,000 gallons
	6	over 94,500 gallons	$6.24 per 1,000 gallons

2"	Block	Gallons per Month	Rate
	1	up to 24,000	$197.76
	2	24,001 - 48,000	$3.78 per 1,000 gallons
	3	48,001 - 80,000	$4.51 per 1,000 gallons
	4	80,001 - 120,000	$4.97 per 1,000 gallons
	5	120,001 – 168,000	$5.67 per 1,000 gallons
	6	over 168,000 gallons	$6.24 per 1,000 gallons

2 1/2"	Block	Gallons per Month	Rate
	1	up to 36,000	$295.07
	2	36,001 - 72,000	$3.78 per 1,000 gallons
	3	72,001 - 120,000	$4.51 per 1,000 gallons
	4	120,001 - 180,000	$4.97 per 1,000 gallons
	5	180,001 – 252,000	$5.67 per 1,000 gallons
	6	over 252,000 gallons	$6.24 per 1,000 gallons

3"	Block	Gallons per Month	Rate
	1	up to 52,500	$433.19
	2	52,501 - 105,000	$3.78 per 1,000 gallons
	3	105,001 - 175,000	$4.51 per 1,000 gallons
	4	175,001 - 262,500	$4.97 per 1,000 gallons
	5	262,501 – 367,500	$5.67 per 1,000 gallons
	6	over 367,500 gallons	$6.24 per 1,000 gallons

4"	Block	Gallons per Month	Rate
	1	up to 90,000	$739.25
	2	90,001 - 180,000	$3.78 per 1,000 gallons
	3	180,001 - 300,000	$4.51 per 1,000 gallons
	4	300,001 - 450,000	$4.97 per 1,000 gallons
	5	450,001 – 630,000	$5.67 per 1,000 gallons
	6	over 630,000 gallons	$6.24 per 1,000 gallons

6" For a 6 inch tap, the water rates are to be established by contract between the user and the City.

8" For an 8 inch tap, the water rates are to be established by contract between the user and the City."

B. Rates to be paid by customers using compound water meters (a meter that has two registers built into the meter, one (1) for high volume readings and one (1) for low volume readings) shall be the total of the readings of both registers with a minimum monthly water service charge which is the greater of either of the two flows as measured by the registers.

C. Rates to be paid by customers having a bypass meter (a secondary meter installed to insure continuous flow during periods when the primary meter is out of operation for servicing) shall be the total of the readings of the registers for both meters. No minimum charge as set forth in Block 1 of *Chart 13.04.390-2* or Block 1 of *Chart 13.04.390-3* shall be applied to billings based on the bypass meter.

D. Rates to be paid by customers whose premises are located in whole or in part outside the corporate limits of the City of Fountain shall pay twice the rate that would be imposed by subsections A, B, and/or C above if the premises were located wholly within the corporate limits of the City of Fountain." (Ord. 1403 §2, 2008) (Ord. 1443 §2, 2008)

13.04.400 Special Charges. For those areas served by the City and utilizing pumping facilities to accomplish adequate water service, a surcharge may be imposed in an amount, which represents the cost of operations and maintenance of such facilities. (Ord. 1138 §1, 2001)

13.04.410 Definitions. As used in sections 13.04.420 to 13.04.470, inclusive, the following definitions shall apply:

A. "By-pass or by-passing" shall mean any pipe, tube, faucet or other instrument, device or contrivance by which water may be transmitted, diverted, taken or used, connected to any line used to supply water to the premises in such a manner as to transmit, divert, take or use any such water without passing through an authorized meter for measuring or determining the amount of such water.

B. "Customer" shall mean the person or organization responsible for the water utility account for the premises and includes authorized employees or agents of the owner.

C. "Tamper or tampering" shall mean damaging, altering, adjusting or in any manner interfering with or obstructing the action or operation of any meter provided for measuring or determining the amount of water passing through such meter.

D. "Unauthorized metering" shall mean removing, moving, installing, connecting,

reconnecting or disconnecting any meter or metering device for water service by a person other than an authorized employee of the Water Department. (Ord. 1138 §1, 2001)

13.04.420 Unlawful Acts.

A. It shall be unlawful for any person to install a by-pass without the express written authorization of the Superintendent.

B. It shall be unlawful for any customer or the user at any premises knowingly to receive water service by means of a by-pass which has not been authorized in writing by the Superintendent of the Water Department or knowingly to receive water service by means of an authorized by-pass which is not approved or intended for water service.

C. It shall be unlawful for any person to tamper with a water meter or other water utility equipment without the express written authorization of the Superintendent.

D. It shall be unlawful for any customer or the user of any premises knowingly to receive water service by means of tampering which has not been authorized in writing by the Superintendent.

E. It shall be unlawful for any person to engage in unauthorized metering.

F. It shall be unlawful for any customer or the user of any premises knowingly to receive water service by means of unauthorized metering which has not been expressly authorized in writing by the superintendent. (Ord. 1138 §1, 2001)

13.04.430 Restitution. As a condition of granting probation, deferred prosecution, deferred sentence or suspended sentence, the court may order any person who is charged with or found guilty of, as the case may be, of violating any of the provisions of section 13.04.440, to pay as restitution estimated or actual user charges for the period during which the violation existed, the cost of repairing or replacing any damaged utility equipment, or any other costs incurred by the City related to the violation including, but not limited to, costs of investigation, disconnection, reconnection and service calls. (Ord. 1138 §1, 2001)

13.04.440 Evidence of Violations.

A. Proof of the existence of any by-pass, tampering or unauthorized metering, as prohibited in this part, shall be deemed prima facie evidence of the user of the premises where such by-pass, tampering or unauthorized metering if it is proved that the user is an occupant of the premises and that said user had access to the water meter or other utility equipment where the by-pass, tampering or unauthorized metering is proved to exist.

B. Proof of the existence of any by-pass, tampering or unauthorized metering, as prohibited by this subsection A shall be deemed prima facie evidence that the customer had knowledge of the by-pass, tampering or unauthorized metering if it is proved that said customer controlled access to the water meter or other utility equipment where the by-pass, tampering or unauthorized metering is proved to exist. (Ord. 1138 §1, 2001)

13.04.450 Interruption of Service on Account of Tampering, By-passing or Unauthorized Metering. Tampering, by-passing or unauthorized metering, as defined in section 13.04.420 at any premises is subterfuge. Such tampering, by-passing or unauthorized metering shall be grounds for immediate disconnection of service without notice to the customer or user at such premises. Service shall not be reconnected until any and all deficiencies in piping, connections, meters and/or water facilities of the premises have been repaired, corrected or otherwise altered to conform to the requirements of all applicable ordinances, rules and regulations and until the requirements of section 13.04.440 are met. (Ord. 1138 §1, 2001)

13.04.460 Reconnection Charges for Tampering, By-passing or Unauthorized Metering. In order for water service to be reconnected to premises where tampering, by-passing or unauthorized metering has occurred, the customer or user of the premises shall pay the following charges to the department prior to reconnection:

A. Service charge calculated to compensate the department for all reasonable expenses incurred on account of the tampering, by-passing or unauthorized metering including, but not limited to, costs of investigation, disconnection, reconnection and service calls, but in no event less than twenty-five dollars ($25);

B. The cost of repairing or replacing any damaged utility equipment; and

C. The actual or estimated user charges not previously billed to the customer as a result of the tampering, by-passing or unauthorized metering. (Ord. 1138 §1, 2001)

13.04.470 Defective Meters-Estimated User Charges.

A. If a meter is found not to register, to register intermittently or inaccurately, or to partially register for any period, the amount of water consumed at the premises of any user of the water supply system, the water department may estimate charges for the water consumed by averaging the amounts over similar periods, over corresponding periods in previous years, or on such other basis as may be reasonable. The owner or occupant of the premises in which such defective meter is found to exist shall be liable for estimated user charges as so determined by the Water Department.

B. In the event a defective meter has resulted in the overpayment of user charges by the owner or occupant of the premises in which such defective meter is found to exist, the excess amount is determined on the basis of estimated user charges in the manner provided in subsection A of this section, shall be refunded or credited to such owner or occupant. (Ord. 1138 §1, 2001)

13.04.480 Dishonored Checks. Any check received by the City in payment of a customer's bill and subsequently returned from the bank without being honored shall constitute non-payment of the amount due. Receipt of such check in payment of an amount due pursuant to a pending notice of discontinuance shall result in discontinuance of service without additional notice. If service is restored by the City upon payment of such a check, the City may immediately discontinue service without additional notice when the City learns that the bank will not honor the check. In the event the City receives two dishonored checks from any one customer in any one year, the City may issue notice to the customer and require future payments for the next twelve months to be in cash or certified funds. (Ord. 1138 §1, 2001)

13.04.490 Requirements for Budget Billing Plan. Residential users of water service may elect to pay future monthly water charges in accordance with a budget-billing plan. In order to qualify for this plan, the user shall not have a past due balance for water service and must request said plan at least thirty (30) days prior to the beginning of the customer's billing cycle. The budget-billing plan shall apply to all services furnished to the user. A user shall not be eligible for the budget-billing plan unless the user has a twelve (12) month billing history at the particular residence. (Ord. 1138 §1, 2001)

13.04.500 Monthly Amount Due.

A. The monthly amount due from any user under a budget billing plan shall be equal to one tenth (1/10) of the total of the amount determined by applying the user charge rate for each utility service in effect at the time such user requests such plan to the amount of each utility service consumed at the premises of such user for the most recent twelve (12) month period.

B. The monthly amount due from any user under a budget billing plan shall be paid by such user for eleven (11) consecutive months with the final or twelfth (12^{th}) month's payment being a settlement amount equal to the difference between the total payments made during the prior payment months and the actual billing for the twelve (12) month period. The settlement amount, if a credit balance, would be credited against future bills of the customer. If the settlement amount is a balance owned by the customer, it shall be due and payable on the due date indicated on the bill for the settlement month.

C. The budget-billing plan shall remain in effect for the user charged in accordance with such plan until such user requests that charges be determined and collected in accordance with regular billing procedures. Such request shall terminate such plan for all services furnished for such user by the customer service department. If a customer is removed from the budget-billing plan for any reason, the customer shall not be eligible to participate in the plan again for a minimum period of twelve (12) months.

D. If a user under the budget-billing plan fails to pay the budget-billing obligation on any month, normal collection procedures shall be applicable for the outstanding budget billing amount. The user shall be removed from the budget-billing plan and service may be discontinued.

E. The monthly budget-billing amount may be adjusted, at the option of the City, for any increase or decrease in the City's rates. Said monthly budget billing amount may also be adjusted, at the option of the City, if the customer's water use increases or decreases substantially.

F. If water service is terminated for any reason to a user on a budget billing plan, the user shall be removed from the plan and the entire outstanding amount of the account shall be due and payable.

G. The user may elect to terminate the budget-billing plan at any time by notifying the City in writing and by paying in full the entire outstanding amount of the account. If the customer has a credit balance, the City shall apply the credit balance to future billings. (Ord. 1138 §1, 2001)

13.04.510 Discontinuance of Service at User's Request. A user requesting to discontinue service or terminate his responsibility for service shall give at least three (3) working day's notice to the City in order to allow sufficient time for final meter reading and disconnection or transfer of service. Where such notice is not received by the City, the user shall be responsible for service until final reading of the meter. Notice of discontinuance of service will not relieve the customer for any minimum or guaranteed payment under any contract or rate schedule. (Ord. 1138 §1, 2001)

13.04.520 Discontinuance of Service by the City.

A. In the event that a user violates an ordinance or regulation concerning water service, such service may be discontinued upon giving seven (7) days prior written notice unless a hazardous condition exists in which event service may be discontinued without prior notice.

B. A notice of discontinuance as a condition precedent to disconnection or discontinuance of water service shall include, as a minimum, the following:

1. A statement describing the ordinance or regulation that is being violated;

2. Where applicable, a statement that disconnection or discontinuance of service may be avoided by correction of the violation; and

3. A statement that a procedure is available with the City to resolve disputes concerning violation of the water service ordinance or regulations. Such statement shall state how the user may contact the customer service department to resolve any dispute by telephone, by person or by letter.

C. One notice of discontinuance may be used for all services provided by the City.

D. Dispute resolution procedures shall be in accordance with the procedures adopted

for discontinuance of electrical service. (Ord. 1138 §1, 2001)

13.04.530 Restoration of Service.

A. Where service has been discontinued for non-payment, service will be restored within twenty-four (24) hours (unless extenuating circumstances prevent restoration) after the customer pays in full all mounts past due, plus any deposit, collection or water service restoration fees as may be specifically provided for in this chapter.

B. Where service has been discontinued for reasons other than non-payment, service shall be restored within twenty-four (24) hours (unless extenuating circumstances prevent restoration) and after the customer pays any water service restoration and/or collection charges plus any deposit as may be specifically required in the event of discontinuance and notifies the customer service department and the customer service department confirms that the cause for discontinuance, if other than non-payment, has been cured. (Ord. 1138 §1, 2001)

13.04.540 Installment Payment Plan Arrangements. Where a residential water account is delinquent, a user may be eligible for an installment payment plan in accordance with the provisions for such payment plan for electric utility service. (Ord. 1138 §1, 2001)

13.04.550 Complaints. Customer complaints, whether service or payment related, shall be handled in the same manner as provided for electrical service. (Ord. 1138 §1, 2001)

13.04.551 Collection of Charges and Remedies.

A. Unpaid Charges; Lien; Collection:

Until paid, all charges which shall include costs, fees or other financial obligations imposed or authorized by this Chapter or Chapter 13.08 of the Fountain Municipal Code for water services provided by the City shall constitute a perpetual lien on and against the property connected to or served by the water system which may be recorded against the property at any time thereafter, and shall be chargeable against the owner of the property at the time of use of the service or the owner's successors in interest to the property. In the event that any charge imposed or authorized by this Chapter or Chapter 13.08 of the Fountain Municipal Code shall not be paid when due, the Utility Director or the Utility Director's representative may issue a notice of lien to the owner of the property or the user or both, setting forth the amount of the charge due and payable, identifying the property connected to the water system for which the charge is delinquent and stating that the City claims a perpetual lien on and against the property for the unpaid charge. Until paid, the charge shall constitute a perpetual lien on and against the property served. After the issuance of notice of lien, the Utility Director or the Utility Director's representative may file a verified notice of lien with the Clerk and Recorder of the County in which the property is located.

After the issuance of notice of lien, a verified notice of lien may be filed with the City Clerk by the Utility Director or the Utility Director's representative. The City Clerk shall certify the charge to the County Treasurer to be placed upon the tax list for the current year and to be collected in the same manner as taxes with a ten percent (10%) penalty thereon to defray the costs of collection. All laws of the State of Colorado for the assessment and collection of general taxes and the redemption of same shall apply to the charges

B. Dispute Procedures: The owner of property subject to the lien may dispute the amount or validity of the lien in accordance with the procedures for complaints set forth in section 13.16.400 of the Code.

C. Remedies: Charges may be collected and the lien created hereunder may be enforced in a proceeding in law or equity as provided in section 31-15-302(1)(e) C.R.S. and reasonable attorney's fees and other costs of collection may be imposed as authorized by section 31-35-402(1)(f) C.R.S. The remedies of the City as set forth in this section shall be cumulative and not alternative, and the City may pursue any remedy either singly or in combination as it may deem necessary and appropriate or any other remedy provided in law or equity. (Ord. 1243 §1, 2004)

IV. REGULATIONS FOR USE OF WATER

13.04.560 Use - Determination by Council. In order to maintain adequate water pressure and water supply and/or proper water quality, the City Council may restrict or deny the use of water by any user. Such restrictions may include, but shall not be limited to, designation of the type and number of uses of water, which shall be permitted, and/or any other restriction, which the Council may deem necessary. (Ord. 1138 §1, 2001)

13.04.570 Use - Restrictions First Applied to Outside Users. In the event that City Council determines that, owing to shortage of water caused by dry spells, adverse climatic conditions or other causes, restrictions as to the use of water are necessary to preserve an adequate supply of water, such restrictions may be applied first to users outside the corporate limits of the City as the City Council may direct. (Ord. 1138 §1, 2001)

13.04.571 Farmer's Hydrant Use Restrictions.

A. The provisions of this section apply to water taken from the Farmer's Hydrant, a water hydrant owned by the City and located near the intersection of Missouri Avenue and Walnut Street and designated by the City as the "Farmer's Hydrant."

B. Only persons who are residents of the City whose property does not have a permanent connection to the City water supply and who have entered in a contract with the City shall be permitted to take, use or transport water from the Farmer's Hydrant.

C. It shall be unlawful for any person who is not a resident of the City of Fountain, to take, use, or transport water from the Farmer's Hydrant. It shall be unlawful for any person to take, use, or transport water from the Farmer's Hydrant water for use outside of the city limits of the City of Fountain. Any person authorized by the City to take water from the Farmer's Hydrant who violates this section may have such authorization terminated under the provisions of Section 13.04.520 of this Code pertaining to Discontinuance of Service by the City.

D. The City Manager, Utility Director, or their designees are authorized to make exceptions to these prohibitions where a petition for annexation has been filed with the City and water taken from the Farmer's Hydrant will be used to serve land described in the petition for annexation. (Ord. 1306 §1, 2005)

13.04.580 Conditions of Service.

A. All water furnished by the City in providing water service is and shall be on a license basis for one time use for lawful purposes on the customer's premises. The license herein granted may be modified, suspended or terminated as now or hereafter provided in the rules, regulations and ordinances of the City. Neither the granting of this license nor the use of water thereunder shall constitute or be deemed a relinquishment of the City's dominion and control of its water or the title to any of its water or water rights. No act, circumstance or condition of such use or service shall be deemed to constitute a conveyance of the City's title or surrender of the City's dominion and control, or shall operate to create any vested or proprietary right, relating to the City's water or water rights, in any person whatsoever.

B. It shall be unlawful for any person to make any reuse or succession of uses of the water provided by the City, except as specifically allowed by the rules, regulations, resolutions or ordinances of the City.

C. It shall be unlawful for any person to directly or indirectly sell or otherwise dispose of water service furnished by the City or to do any other act, except in accordance with that person's service application and service contract and with the rules, regulations, resolutions or ordinances of the City. Nothing in the foregoing sentence shall prohibit a customer from establishing an appropriate allocation procedure for the purposes of receiving reimbursement from tenants or lessees for their proportionate share of water service used which allocation procedure shall be determined solely by contractual arrangement between the customer and the tenants or lessees, provided that the customer shall not receive total reimbursement in excess of the amount necessary to pay said customer's water bill. (Ord. 1138 §1, 2001)

13.04.590 Unlawful to Steal Water. It shall be unlawful for any person to take or use any water from the water supply system of the City, or to aid or abet any person in such taking or using, otherwise than in compliance with this chapter. (Ord. 1138 §1, 2001)

13.04.600 Unlawful Taking - Evidence of. Occupancy of any premises for which the City supplies water for any purpose for any length of time greater than five (5) days, without

entering into a water service agreement with the City, shall be deemed prima facie evidence of the unlawful taking or use of water by the owner of such premises. (Ord. 1138 §1, 2001)

13.04.610 Unlawful to Take Water From Fire Hydrant. It shall be unlawful for any person to take any water from any fire hydrant or hose pipe except for the extinguishment of fires, the cleaning or testing of fire apparatus or with the permission of the Superintendent. The Superintendent may take water from a fire hydrant when necessary for any purpose of the water system. (Ord. 1138 §1, 2001)

13.04.620 Private Lines Prohibited. It shall be unlawful for any consumer of City water to either reconnect hook up or create a cross-connection with any water well or other water supply, not operated by the City, to any of the water lines of the City or to any water lines that may connect to the water lines of the City. The Water Department may deny or disconnect service to any property that is connected to a private source of water supply. (Ord. 1138 §1, 2001)

13.04.630 Admission to Property. The Water Department shall have the right to enter upon the premises of the customer at all reasonable times for the purpose of inspecting, repairing or removing any or all equipment used in connection with its service, and removing its property when service has been discontinued. (Ord. 1138 §1, 2001)

13.04.640 Use of Water - Temporary Discontinuance. The City expressly reserves the right to temporarily shut off water from the distribution mains when necessary to repair any portion of the water supply system or to make connections to or extensions of the water supply system. The Water Department shall endeavor to give reasonable notice of the proposed interruption of water service, whenever possible, to all users potentially affected thereby. (Ord. 1138 §1, 2001)

13.04.650 Liability of City - Exclusion of. The City shall not be liable to any person for failure to supply water during repairs or extensions of the distribution mains nor for other causes such as strikes, acts of God, unavoidable accidents or other contingencies beyond its control. The City shall not be liable to any person for failure to maintain water pressure sufficient to any proposed use of water. (Ord. 1138 §1, 2001)

V. CONTROL AND PROTECTION OF WATER SYSTEM

13.04.660 Unlawful Acts.

A. It shall be unlawful for any person to interfere in any manner with any distribution main, meter, corporation or any other appurtenance connected to the water system or comprising a part thereof without permission therefor obtained from the Superintendent.

B. It shall be unlawful for any person to damage, impair or deface any part, appliance or appurtenance of the water supply system of the City.

C. It shall be unlawful for any person to excavate or obstruct any line or main belonging to the City, or to do any act or thing to divert, damage, drain or otherwise impede or hinder, or tend to impede or hinder, the flow of any of the waters or streams tributary or contributing to the water supply of the City without permission therefor obtained from the Manager.

D. It shall be unlawful for any person to damage, tamper, meddle or interfere in any way with any of the works, lakes, reservoirs, drains, streams, trenches, mains, lines, filters, valves, gauges, devices, grounds, enclosures buildings, structures, boats or other property or works of the City used directly or indirectly for or in connection with the water supply system of the City.

E. It shall be unlawful for any person to enter without authority or to trespass upon any property or works of the City used directly or indirectly for or in connection with the water supply system of the City. (Ord. 1138 §1, 2001)

13.04.670 Unlawful to Pollute.

A. It shall be unlawful for any person to pollute or contaminate any of the waters in or of the water supply system of the City, or to do any act which would pollute or tend to pollute the watersheds of the City.

B. It shall be unlawful for any person to do any act whatsoever which shall tend to foul or render impure or unwholesome any of the waters or streams tributary or contributing to the water supply of the City, and it shall be unlawful for any person to cast into or allow to flow or fall into any of said waters, or into any reservoir or lake belonging to the City, any filth, sewage, carrion, garbage, minerals, clay, rock or earth of any kind, or any excretion, clothing, paper, rags or any extraneous substances. (Ord. 1138 §1, 2001)

Chapter 13.08

CONSTRUCTION WATER USE PERMITS

Sections:

13.08.010 Construction Water Use Permit Required. A construction water use permit is required whenever a temporary service connection is made to a City fire hydrant for construction purposes. A temporary service connection shall be defined as a service connection to the city's water system for not more than ninety (90) days. The City reserves the right to deny the issuance of a water use permit for construction purposes outside of the City limits. (Ord. 747 §1, 1987)

13.08.020 Construction Water Use Permit Application. Applications for construction water use permits may be made to the customer service department on forms provided by that department. Applications must be accompanied by the deposit and permit fee and must contain the following information:

A. Proposed dates of water usage.

B. The size of the water meter to be used.

C. A description of the purposes for which the water is to be used.

D. The number and location of the fire hydrant to be used, if applicable.

E. The name, address, and telephone number of the applicant. (Ord. 747 §1, 1987)

13.08.030 Meter Required. All temporary connections to the City's water system for the purpose of obtaining construction water shall be metered. (Ord. 747 §1, 1987)

13.08.040 Permit Deposit and Fees.

A. All permittees shall pay the following:

1. A minimum charge of $50.00 for 0 – 3,000 gallons and a charge of three dollars ($3.00) per thousand gallons thereafter.
2. A water meter rental fee of four dollars ($4.00) per day if the water meter is furnished by the City.

3. A deposit in the amount of $350.00 to insure payment of the bill and the return fo the water meter in good working order. (Ord. 747 §1, 1987)

13.08.050 Permit Requirements. All permittees shall comply with the following requirements:

A. Before a construction water use permit is issued for the purpose of filling a truck, the permittee's truck shall be inspected and approved by the Water Department for adequate backflow prevention.

B. When using a fire hydrant, the female end of the adapter hose shall be connected to the fire hydrant, and the male end shall be connected to the meter. The gate valve shall be connected to the downstream side of the meter. The hydrant shall be opened slowly to full open position, and flow shall be controlled through the gate valve when the meter is in use. The hydrant shall be closed slowly to full shutoff position when the meter is not in use. Only fire hydrant wrenches shall be used for operating the hydrant.

C. When not in use, equipment rented from the City shall be safely and securely stored.

D. The meter shall be brought in to the Water Department for reading on the 28th day of each month.

E. The construction water use permit shall be available for inspection in the field by City personnel. (Ord. 747 §1, 1987)

13.08.060 Permit Expiration. A permit shall expire ninety (90) days after it has been issued. The permittee may reapply for a new permit as described in Section 13.08.020. (Ord. 747 §1, 1987)

13.08.070 Permit Revocation. The City may revoke a construction water use permit for any one or more of the following reasons:

A. Failure to comply with the regulations listed in Section 13.08.050;

B. Misuse of City equipment;

C. Use of the permit for other than construction purposes. (Ord. 747 §1, 1987)

APPENDIX D

PROOF OF PUBLIC NOTICE AND CITY COUNCIL ADOPTION

City of Fountain

Fountain All-America City 2002

RESOLUTION 08-057

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FOUNTAIN, COLORADO AUTHORIZING THE CITY AND THE CITY'S ELECTRIC, WATER AND WASTEWATER UTILITY ENTERPRISE TO PROVIDE APPROPRIATE NOTICES AND RECEIVE PUBLIC COMMENT ON THE DRAFT CITY OF FOUNTAIN WATER CONSERVATION PLAN

A. The City of Fountain, (the "City') on behalf of its Electric, Water and Wastewater Utility Enterprise (the "Utility Enterprise") desires to adopt a Water Conservation Plan update (the "Plan") in compliance with the requirements of the Colorado Water Conservation Board and state law.

B. The City Council desires to authorize the City on behalf its Utility Enterprise to provide public notice of the draft Plan, receive public comment, and take such other actions as may be legally necessary and otherwise appropriate for the City Council to adopt a final Water Conservation Plan and for the approval of a final Water Conservation Plan by the Colorado Water Conservation Board.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FOUNTAIN, COLORADO AS FOLLOWS:

1. The recitals set forth in this resolution are incorporated in support of this resolution.

2. The City Council authorizes the City Manager, the Utilities Director and other members of its Utility Enterprise and City staff to provide public notice and receive public comment concerning the draft Plan in accordance with the provisions of §31-60-126(5) Colorado Revised Statutes and the Colorado Water Conservation's Board's Water Conservation Plan Guidelines.

3. The process of providing public notice and receiving public comments concerning the Draft Plan shall include, but not necessarily be limited to, publication of notice concerning the availability of the draft Plan, posting the draft Water Conservation Plan on the City's website, soliciting public comment concerning the draft Water Conservation Plan, making the draft Plan available at the City Clerks' Office and the Fountain Branch of the Pikes Peak Library District at 230 South Main Street, providing presentations concerning the Plan, and holding at least one public meeting concerning the draft Plan.

4. Comments from the public shall be received by the City and its Utility Enterprise for a period of not less than sixty (60) days after the draft Plan is made publically available.

5. The City and its Utility Enterprise shall consider the comments received from the public before submitting a final Water Conservation Plan to the City Council for the City Council's consideration, and the City Council will also consider such comments in its consideration of the final Water Conservation Plan.

Done this 19th day of August, 2008.

Jeri C. Howells
Mayor
8-19-08

ATTEST:

Sharon S. Mosley
City Clerk

City of Fountain
Pure Colorado

Fountain Water Department Seeks Public Input

Fountain Utilities is seeking public input over the next two months on its draft Water Conservation Plan. The Plan hasn't been updated since 2001.

"We've seen a lot of changes in the past seven years," said Mike Fink, Water Resource Engineer for Fountain. "We can now see that the initiatives we implemented in 2001 have been effective in reducing water usage. Now, we want to take the planning process one step further."

Fink feels that, by planning for conservation measures now, before companies build new homes and communities, it will save Fountain water customers in the long run.

Residents are invited to participate during the following times/locations:

September 3, 2008
Planning Commission
City Council Chambers
116 South Main Street
6:00 p.m.

September 10, 2008
Economic Development Commission
City Council Chambers
116 South Main Street
4:30 p.m.

September 24, 2008
October 7, 2008
City Council Chambers
116 South Main Street
1:00 p.m.

October 7, 2008
Parks Advisory Council
City Council Chambers
116 South Main Street
7:00 p.m.

Additional community meetings may be scheduled. Check fountainutilities.org for updates, or call 322-2072 for more information.

To review a copy of the draft plan, go to fountainutilities.org and click on Draft Water Conservation Plan.

Printed copies are also available at no charge in the City Clerk's Office in City Hall at 116 South Main Street and may be viewed at the Fountain Branch of the Pikes Peak Library District at 230 South Main Street.

Written comments about the draft Plan will be accepted and should be sent to Mike Fink, Conservation Plan Comments, City of Fountain, 116 South Main Street, Fountain, CO 80817; or, to conserve@fountainutilities.org.

The City of Fountain is a fast-growing community with 22,000 residents. Currently, it is growing at a pace of 3% annually. It's located just east of Fort Carson's Gate 20, and boasts quick commutes and a small town atmosphere ideal for families.

For further information about the public process, call Fountain Utilities at (719) 322-2072, or visit fountainutilities.org.

THE EL PASO COUNTY ADVERTISER AND NEWS,
FOUNTAIN, COLORADO 80817
STATE OF COLORADO

ss.

COUNTY OF EL PASO

I, Patricia L. St. Louis, do solemnly swear that I am Managing Editor of the El Paso County Advertiser and News, that the same is a weekly newspaper printed, in whole or in part, and published in the County of El Paso, state of Colorado, and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said county of El Paso for a period of more than 52 weeks next prior to the first publication of the annexed notice and that said newspaper is a weekly newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

That copies of each number of said paper in which saic notice and list were published were delivered by carriers or transmitted by mail to each of the subscribers of saic paper for a period of 1 consecutive insertions, once each week, and on the same day of each week; and that first publication of said notice was in the issue of saic newspaper dated August 27, A.D. 2008 and that the last publication of said notice was in the issue of saic newspaper dated August 27, A.D. 2008.

Patricia L. St. Louis
Managing Editor

Subscribed and sworn to before me, a notary public in and for the County of El Paso, State of Colorado, this 27th day of August A.D. 2008.

Karen M. Johnson
Notary Public
My Commission Expires December 18, 2009

KAREN M. JOHNSON
NOTARY PUBLIC
STATE OF COLORADO

NOTICE OF PUBLIC REVIEW
FOR 2008 WATER CONSERVATION PLAN UPDATE
CITY OF FOUNTAIN, COLORADO

The City of Fountain's Electric, Water and Wastewater Enterprise (Fountain), has co a draft Revision to the 2001 Water Conservation Plan (Plan). The mission of the F develop strategies and programs for efficient and sustainable water use.

Before finalizing the Plan, Fountain welcomes input from residents, water customers a stakeholders. Fountain will conduct a 60 day public review beginning with the publicati Notice on August 27, 2008, closing on October 27, 2008.

Copies of the Plan will be available at the Receptionist's Desk in the City Clerk's Offi above address for no charge starting **Tuesday, August 26, 2008.** The Plan will be p Fountain's Web Site at www.fountaincolorado.org. A copy of the Plan will also be ava public review at the Fountain Branch of the Pikes Peak Library District, 230 South Mai Fountain, Colorado.

There are eleven (11) Criteria defining water conservation programs and measures in t with Goals, Measurement Standards, Implementation Schedules and Projected Water associated with each of the Criteria. The Criteria are as follows:

- ☒ Water Efficient Fixtures and Appliances
- ☒ Low Water Use Landscapes and Efficient Irrigation
- ☐ Water-Efficient Industrial and Commercial Water-Using Processes
- ☐ Water Reuse Systems
- ☐ Distribution System Leak Identification and Repair
- ☐ Dissemination of Information
- ☒ Water Rate Structure and Billing Systems
- ☒ Regulatory Measures
- ☐ Incentives to Implement Water Conservation
- ☐ Non-Potable Supplies
- ☐ Keeton Reservoir Delivery Pipeline
- ☒ (Partially Implemented)

Fountain will conduct informative presentations at several locations and times, includ not limited to:

Fountain Planning Commission on September 3, 2008 at 6:00 P.M. in t Council Chambers at City Hall, 116 South Main Street.
Fountain Economic Development Commission on September 10, 2008 4:30 P.M. in the Council Chambers at City Hall, 116 South Main Street.
Fountain Parks Advisory Council on October 7, 2008 at 7:00 P.M. in t Council Chambers at City Hall, 116 South Main Street.
Presentations to the Public at 1:00 P.M. in the Council Chambers at C Hall, 116 South Main Street on September 24, 2008 and October 7, 200

Written comments are welcome and should be directed to:

Conservation Plan Comments, in care of Michael Fink, P.E.
City of Fountain, City Hall
116 South Main Street
Fountain, Colorado 80817
conserve@fountainutilities.org

City of Fountain on behalf of its
Electric, Water and Wastewater Utility Enterprise

/s/Sharon G. Mosley
City Clerk

Publication Date: August 27, 2008

City of Fountain
Fountain, Colorado

Fountain All-America City 2002

RESOLUTON 09- 010

A RESOLUTION ADOPTING THE 2009 UPDATE AND REVISION OF THE CITY OF FOUNTAIN WATER CONSERVATION PLAN

WHEREAS, the City of Fountain, Colorado, through its Electric, Water and Wastewater Utility Enterprise (the "Utility Enterprise"), adopted its initial Water Conservation Plan on August 30, 2001 in accordance to the Water Conservation Act of 1991; and

WHEREAS, the 2006 Water Master Plan confirmed the importance of water conservation to the City's future and identified the need to update the Water Conservation Plan to achieve on-going and additional water savings; and

WHEREAS, pursuant to resolution 08-057 the City provided public notices and received public comment on the Water Conservation Plan; and

WHEREAS, the City and its utility enterprise has received and considered comments received by the public before submitting a final Water Conservation Plan to the City Council for adoption; and

WHEREAS, final approval of the 2009 Update and Revision of the Water Conservation Plan requires formal adoption of the plan by City Council.

NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Fountain, Colorado approves and adopts the 2009 Update and Revision of the Water Conservation Plan.

Done this 10th day of March, 2009.

Mayor 3-10-09

ATTEST:

Deputy City Clerk